

SEMPER FIDELIS

*Modern
Packaging*

★ JUNE ★ → BUY WAR BONDS ← ★ 1943 ★



WHAT'S THAT ON THE TABLE?

... It's one of Canco's "war substitute" packages

It looks like a metal coffee can.

The housewife will instantly recognize the same familiar package she used to know in metal.

But this can is made of fibre—all-fibre. And, while of course it is not a vacuum can, we're mighty proud of it as a wartime package.

Here's why . . .

1. It permits the coffee packer to continue retail distribution of his brand in a can-like package because no new equipment is required to fill, seal, and handle this container.

2. It is strong enough to stand hard handling . . . has a double top, one to

protect it for shipping, one as a re-closure. And, it has a protective lining!

3. It can be lithographed with the packer's familiar label, thereby maintaining his brand name and package identity.

This is only one of the many answers devised by Canco technicians and research men in meeting today's packaging problems. Some of these problems are extremely difficult, as you well realize. Some of them cannot be met, because of material shortages. (For the time being, production of these coffee containers must be limited. Materials are not obtainable in sufficient quantities to con-

vert more than a few of our many coffee lines.) But wherever Canco can use its technical skill for adaptations or substitutions—it is doing so.

This work, of course, must and will proceed without interfering in any way with the large and important contributions we are making daily to the war effort.

Stop accidents NOW —save Manpower for Warpower

Co-operate with the War Production Fund to Conserve Manpower by warning your employees not to take chances.



AMERICAN CAN COMPANY
230 PARK AVENUE, NEW YORK, N. Y.





Adaptability of a metal cap to a wide variety of products, packages and methods of packaging oftentimes explains its popularity and continued use. For this simplifies purchasing, holds stocks to a minimum and obviates the necessity of installing special equipment (probably unavailable) every time a new product or package is brought out. The Phoenix C T Cap, *if anything*, is adaptable! It may be used for packaging foods, drugs, cosmetics, liquors, wines and household chemicals. It is available in small sizes for bottles; large sizes for jars. It lends itself equally well to hand or machine application. And it is known and liked by the consumer because it is easy to remove and may be used as a safe and secure reseal. Besides, the Phoenix C T Cap is dependable and convenient; decorative, yet economical; simple in construction; precision made — standard; uniform in fit and appearance. But, above all, in a day of substitutes and priorities, it is *adaptable*.

 **Phoenix Metal Cap Co.,**
2444 W. Sixteenth St., Chicago;
3720 Fourteenth Ave., Brooklyn.

MODERN PACKAGING

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VOLUME 16

JUNE 1943

NUMBER 10

IN JULY

The fruit season is almost here. The problem of sufficient experienced labor to pick the fruit and pack it will be acute. Growers and shippers all over the country are looking for every short-cut which will alleviate this situation. A new method of packing apples in molded pulp trays and corrugated boxes will make it possible for green help to pack just as fast and at less cost on an hourly basis than experienced labor. It is estimated that more than a million and a half boxes of apples will move in this new type of packaging this year. Read about it in July Modern Packaging.

Also in July—custom packing for dehydrated foods shipped under lend-lease—more about packing to prevent corrosion—whether re-use of fibre drums is practicable.

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Published the 1st of each month by Breskin Publishing Corporation. Publication office, Twentieth and Northampton Sts., Easton, Pa. Executive and Editorial Offices, 122 E. 42nd St. (Chanin Bldg.), New York, N. Y. Phone AShland 4-0655. Cleveland office, 1012 N. B. C. Bldg., Superior 7377. Chicago office, 221 N. LaSalle St., Room 1338. Phone Randolph 6336. Los Angeles Office, 427 West 5th St. Washington, D. C., office, Room 625, Colorado Bldg. Phone Exec. 0987. Sponsors of the All-America Package Competition. Subscription \$5.00 per year in United States; Canadian, \$5.50; foreign, \$6.00. Two year subscription United States, \$8.00; Canadian, \$9.00; foreign, \$10.00. All foreign subscriptions payable in United States currency or equivalent in foreign currency computed in current exchange. Price this issue, 50¢ per copy. Copyright 1943 by Breskin Publishing Corporation. All rights reserved including the right to reproduce this book or portion thereof in any form. Printed in U. S. A. Acceptance under the Act of June 5, 1934, at Easton, Pa. Authorized October 7, 1936.

NO bottleneck!



...on these tiny tools of war

Tools for Victory include a lot of *little* things . . . the hundreds of parts in an anti-aircraft gun . . . in a Garand rifle or a bombsight. Delay the production of even one small but important part and the *whole* assembly line may be stopped dead in its tracks because of this "bottleneck."

These little ordnance pieces, for example—only $\frac{3}{8}$ th of an inch by $\frac{1}{4}$ inch. *Vital* operation—the sealing of foil over one end of these tiny pieces—*thousands* must be sealed per hour!

Redington's *peacetime* skills were called upon to build machines for this *wartime* operation. These tiny ordnance pieces are fed from a hopper, carried through chutes, assembled and transferred—all *familiar steps* to Redington accustomed to handling pipe filters, nails, screws, pills, birthday candles, chewing gum. Nor was the cutting of foil from a roll and feeding it into position strange—Redington machines have foil-wrapped products for *years*.

It's a good example of how our engineers are using their peace-time skills to turn out the tools of war . . . *on time!* F. B. Redington Co. (Est. 1897) 110-112 So. Sangamon St., Chicago, Ill.



REDINGTON

PACKAGING MACHINES

FOR CARTONING • WRAPPING • SPECIAL PACKAGING

Uncle Jake says:

INGENUITY
plus **COURAGE**
plus **WORK**

equals

MIRACLES



* A timely thought from



MAKERS OF

**FOOD PROTECTION
PAPERS**

KALAMAZOO VEGETABLE PARCHMENT COMPANY
PARCHMENT . . . KALAMAZOO . . . MICHIGAN
BRANCH PLANTS IN PHILADELPHIA, PA., AND HOUSTON, TEXAS



Much that we yesterday considered advanced is obsolete. Food packaging for overseas shipments has raised standards of proof against sifting, grease and moisture.

There have emerged with bewildering rapidity, new package designs and shapes, new and more effective materials, new treatments of papers and foils, plastics and thermoplastics.

Tomorrow's packaging machinery will require higher speeds, less floor space, new conceptions of efficiency.

New problems will demand new solutions which our organization will see through from inception to installation.

Do you have future packaging problems—Involving perhaps revolutionary ideas which — together — we might now be considering against the day when fulfillment will suddenly be necessary? We should be glad to join you in discussion.



F R A N K D. P A L M E R, I N C.

528-34 North Western Ave. • Chicago, Ill. • Chesapeake 3344

PACKAGE-DEVELOPMENT LABORATORY ★ SPECIAL MACHINERY MANUFACTURERS

YOU GET A SIXTH SENSE ABOUT GLASS

...when you've been firing it
for 25 years as this man has



THIS IS LEWIS CRAWMER. For over a quarter century he has operated furnaces that melt the ingredients for Armstrong's Glass. These furnaces must be charged with precisely the right weights of materials, and the heat applied must be rigidly controlled, if the finished ware is to be up to Armstrong's exacting standards.

To these operations, Lewis Crawmer brings a "sixth sense" gained from 25 years of experience. His skill, and that of the men and women who are his co-workers, is one of the big factors that makes and keeps Armstrong's Glass the top-quality line of glass containers.

Read the whole interesting story of Armstrong's Glass, and the men and women who make it, in Armstrong's new booklet, "Men and Glass." For your free copy, write Armstrong Cork Company, Glass and Closure Division, 5906 Prince Street, Lancaster, Pa. Plants at Millville, N. J. and Dunkirk, Indiana.



ARMSTRONG'S GLASS

and ARMSTRONG'S
CLOSURES





YOU'RE LOOKING AT AN
Aluminum Guinea Pig

This little aluminum "can" serves as our laboratory "guinea pig." It determines what materials and what aluminum alloys will get along best together in bulk containers such as barrels, drums and pails.

If you were to pose a problem for which aluminum might be the solution, case histories in Alcoa's files may tell us where to start. Samples of your product would be placed in several of these cans, each constructed of a different aluminum alloy, and in proportions that simulate full-size containers. Service conditions

also would be duplicated; temperatures, agitation, contamination.

At the end you will know how well your product is protected from harm; also, what other advantages there may be in adopting aluminum containers.

Test periods may run into many months. Therefore, if you think there may be merit in using aluminum containers after the war, tests should be started now. Tell us your problems today. ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh, Pennsylvania.

**Aluminum
IS A NATURAL
PROTECTOR**

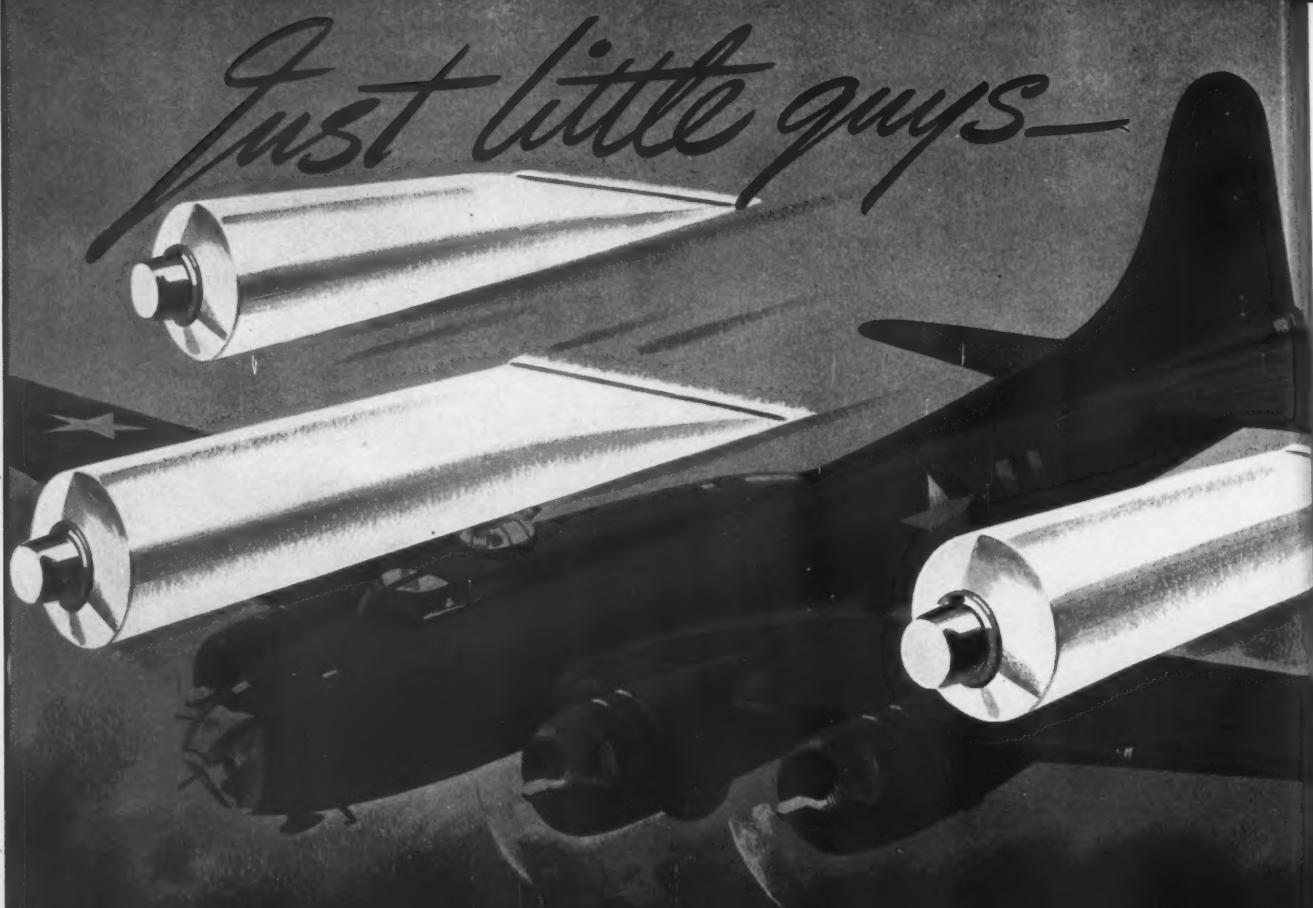
Alone, or in combination with other materials, it excels in preserving freshness, flavor, volume, aroma and color of products that are sensitive to air, light, heat and gain or loss of moisture. Its sparkling beauty makes a handsome package, too.

Think of

ALCOA ALUMINUM

when you think of tomorrow's packages





**... but Tough as Flying Fortresses
and doing their bit to Win the War!**

IT'S natural for most of us to think of the collapsible tube as the familiar container for our tooth paste or shaving cream. But today, collapsible tubes and certain anonymous cousins are not only doing these peacetime tasks but playing an important role in America's war effort.

Soldiers lying in foxholes deep in the tropics, sailors standing guard in the gale-swept Arctic, marines carrying out landing tasks in the far Pacific . . . all can depend, in many ways, on these "little guys" to provide the wartime products that maintain health and life. Sulfa drugs to alleviate pain and speed recovery . . . medicinal preparations to prevent infection and disease . . . pyrotechnics and many other wartime products are packaged and

protected by collapsible tubes . . . millions of which are made by The Sun Tube Corporation.

Here at home, demand for Sun Tubes rises higher and higher. But the efficient facilities of the Sun Tube Corporation are able to handle this record demand—to take on even more production of Sun Tubes for companies engaged in business for the war front or the home front.

If you have a product that requires a container that is light and compact, yet is as tough and dependable as a Flying Fortress . . . a container that prevents contamination and protects your product against deterioration from air or light . . . let's tell you about Sun Tubes. Just call or write our nearest office for complete details.

SUN TUBE CORPORATION . . . Hillside, New Jersey

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360 No. Michigan Avenue

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315 Chestnut St. (Room 125)

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903 Pioneer Bldg.

LOS ANGELES, CALIF.
R. G. F. Byington
1260 North Western Ave.

Ordnance Induwrap by
Angier Corporation

An Important Bearing on Victory



Vital spare parts must reach battle fronts factory-fresh...protected against dust, water, grease, oil, moisture, corrosive media...against disturbance of corrosion-preventive treatments. All this adds up to a set of packaging specifications much too tough for any one material. But by combining several materials so as to make use of the outstanding qualities of each, the packaging industry solved the problem.

To the spectacular success of this development, LUMARITH contributes its part in many applications. For LUMARITH is not only a barrier against water, oil, grease...it protects against mold—does not dry out, shrink, become brittle—is not affected by extremes of humidity and temperature—does not cause or promote corrosion.

Military needs for laminated combination wrapping material demand ever increasing quantities...wider applications.

Celanese Celluloid Corporation, 180 Madison Avenue, New York City.

**CELANESE
CELLULOID
CORPORATION**

LUMARITH
REG. U.S. PAT. OFF.
PLASTICS FOR PACKAGING

The First Name in Plastics

A DIVISION OF CELANESE CORPORATION OF AMERICA

RIGHT DRESS for wartime



**"Cel-O-Seal" Bands help new closures of many types
give complete protection to the contents**

TODAY, product protection is important. Wartime conservation dictates the wisdom of guarding contents of all packages. CEL-O-SEAL cellulose Bands give added protection . . . securely hold in place many types of package closures . . . paper, porcelain, plastic, glass, metal, rubber and cork.

CEL-O-SEAL Bands effectively guard against evaporation, sampling, leakage. They balk substitution . . . keep strength,

flavor and aroma in the package . . . keep impurities out. Foodstuffs retain original quality . . . medicines that protect health are themselves protected by CEL-O-SEAL.

For bottles with government strip stamps, a "Wind-O-Band" Seal displays the stamp . . . holds it firmly in place after bottles are opened. E. I. du Pont de Nemours & Co. (Inc.), Cel-O-Seal Section, Empire State Bldg., New York.

DUPONT
REG. U. S. PAT. OFF.
CEL-O-SEAL
TRADE MARK
BANDS
BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY





Your NEW Package Needn't Be a Stranger!

When material restrictions make it necessary for you to change from the old, familiar package to a wartime successor, your first consideration is to make sure the new container is functional. That's as it should be.

However, your wartime package should not be a stranger—and it needn't be. You can easily retain most of the recognition features and thereby preserve

your brand identity. Even though the materials, style and shape of the new container are different, you can achieve the same quality appeal as heretofore by continuing to use *your established colors* . . . by retaining your familiar brand name and trade-mark design.

Our staff of experts is ready and eager to serve you. As one of the world's largest producers of packaging and high-quality lithographed materials, we invite you to make use of our facilities. Consult with us on your packaging problems . . . perhaps we can help you as we have helped so many others.

And, incidentally, as pioneers in Full Color Lithography and leaders in the field for over three-quarters-of-a-century, we can assure you of real savings in Full Color packaging materials. Write us today.

FREE!
Our 28-page book
—“The Value and
Patriotic Use of
Full Color” tells
how to get beauti-
ful results at low
cost. Write today
for your *free* copy.



For over 75 years—head-
quarters for high-quality, col-
orful, lithographed labels, box
wraps, packets, folding boxes,
cartons, merchandise cards
and envelopes, displays and
advertising materials.

Contractors to the Government—War Work Comes First!

STECHER-TRAUNG
LITHOGRAPH CORPORATION

Rochester, N. Y.

San Francisco, Calif.

Offices in Principal Cities

Safer "Convoy" for precious supplies



Official U. S. Navy Photograph

Submarines and bombers are not the only menace along America's far-stretched supply lines. Sub-zero cold, scorching heat, extreme humidity, frequent hasty handling—all these can exact a costly spoilage toll, if perishable products are improperly packaged.

Warnercraft is helping "plug" such leaks. New and better paperboard containers have

been evolved—tough boxes and cartons that are moisture-proof, grease-proof, sift-proof.

A group of long-experienced Warner experts stands ready to assist you in securing safer transit for your product. They will help you help the war effort by packaging goods that reach the embattled users just as they left your plant.

YOUR PHONE IS ALWAYS HANDY
... For WARNERCRAFT SERVICE
... For WARNERCRAFT QUALITY
... For WARNERCRAFT PRODUCTS

Call Bridgeport 4-0101 New York Ashland 4-1195

WARNERCRAFT

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.

THE WARNER BROTHERS COMPANY

*Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.*



With government approval..

aluminum is being used to seal these war-essential serums and solutions. Aluminum seals them better than any other material. The 5 different types of Alseco Seals shown here were specially developed to meet varied, technical sealing requirements.



ALSECO SEALS



5 Per Doz.

ALUMINUM SEAL COMPANY • 1345 THIRD AVENUE • NEW KENSINGTON • PENNSYLVANIA
At your service: 29 years of experience building quality seals and sealing machines

RARE POISON

THAT COMES PACKAGED IN SPIRAL-WOUND





ND PAPERBOARD TUBES

Millions of these smooth, round tubes are rushing potent poison to the fronts . . . and the Axis rats are getting a good taste of it.

For these tightly-wound, tightly-sealed paperboard containers protect shells and grenades against desert dust and tropical moisture . . . keep them in prime condition to do a deadly job.

On every front, Gardner-Richardson precision-engineered paperboard is helping deliver supplies where they are needed—

quicker and in greater quantities. For more shells, foods and ordnance parts can be loaded into a ship or transport plane when packaged in lightweight, compact paperboard containers.

All of Gardner-Richardson's research and packaging development facilities are now being devoted to the needs of war, for the fighting forces as well as civilian essentials. And you may be sure many of these wartime developments will some day mean finer packages for the products of peace.



The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

Army food parades in paper uniforms



Watch the food trucks rolling into any Army camp. They're filled with paper-cartoned, paper-wrapped food.

Take a look at an Army mess hall pantry. It's like the grocery store at home, with stacks of paper containers and paper-packaged food.

Go into the huge warehouses and refrigerating plants. You'll see long lines of paper-sacked vegetables, big piles of paper-cartoned butter and meats.

No doubt about it — paper has made a modern food store out of the Army pantry.

We here at Oxford see hundreds of new developments in paper. Special maps for paratroops, containers for 5-inch shells, targets by the carload — every day, paper takes on new assignments. New uses are discovered. New needs appear.

Making a thousand miles of paper a day, as we do, we realize that the paper industry is registering progress beyond anything in its history. And we are furthering research in this new world of paper with all the facilities at our command.

Today, the only question we ask ourselves is this — "How many more ways are there for paper to help win this war?" Tomorrow, when materials are again available, unusual papers for many purposes will be ready for you. In the meantime, Oxford merchants and Oxford salesmen are at your service with quality papers for many uses.

OXFORD PAPER COMPANY

230 Park Avenue, New York, N.Y.

Mills at Rumford, Maine & West Carrollton, Ohio
Western Sales Office: 35 E. Wacker Drive, Chicago, Illinois



This can guards war's deadliest weapon



You hear a lot about monster tanks, giant planes, super-battleships. They're impressive, dramatic.

But the weapon called "the most destructive ever invented" weighs less than 100 pounds—and its deadliness is guarded by a "tin can"!

The weapon? A machine gun. The can? A rip-open container called "cartridge case liner" that protects the gun's bullets from *their* enemies.

The enemies of a machine gun bullet are slam-bang handling, dirt, and—very dangerous—moisture. Corroded bullets jam guns. It takes cans to keep machine-gun *and* rifle bullets safe and dry.

America's favorite container is the bodyguard of countless war supplies.

It's helping to protect fighting men, keeping them alive and well. Food, fuel, medicines—all the things you get in cans—are also going to war in cans. And they're getting there—*safe*—because cans are tough!

Remember this when you can't buy all the products you used to get in cans. Remember, too, that the cans of peace will be better cans—thanks to our experience as wartime "Packaging Headquarters for America."

CONTINENTAL CAN COMPANY

It gets there—safe—in cans



FACILITIES FOR WAR WORK

Metal containers are delivering the goods *safely*—foods, supplies, and bullets arrive ready for action. Continental is making millions of these cans along with other needs, including plane parts.

Yet, rushed as we are, we can still take on more! Right now, a part of our vast metal-working facilities for forming, stamping, machining and assembly is still available. Write or phone our War Products Council, 100 East 42nd Street, New York.

**HELP CAN THE AXIS—BUY
WAR BONDS**



A MIRACLE THEN...

Galileo's telescope overturned long-established beliefs. But it is quite inadequate compared to the improved modern instruments available to-day.

NEUTRAGLAS—offering the highest known resistance to solvent action and chemical attack—was developed by Kimble because no glassware can be just "good enough" if better is obtainable.

Standardize NOW on Kimble Ampuls, Serum Vials, Serum Bottles and Clinical Glass containers of NEUTRAGLAS.

• • • *The Visible Guarantee of Invisible Quality* • • •

KIMBLE GLASS COMPANY • • • VINELAND, N. J.



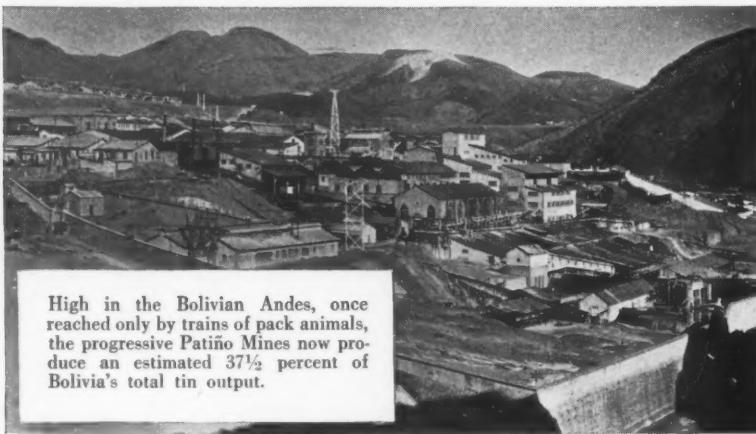


INSIDE NEWS

JUNE

PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y.

1943



High in the Bolivian Andes, once reached only by trains of pack animals, the progressive Patiño Mines now produce an estimated 37½ percent of Bolivia's total tin output.

Bolivia Replaces Far East as Source of United Nations Tin

Simon I. Patiño Pioneered Application of Modern Methods to Tin Mining

Tin for containers and tin for the engines of war is available to the United Nations today despite the loss to the Japanese of the tin producing areas of the Far East. Thanks to the determination of Simon I. Patiño to make a real thing out of tin mining in Bolivia, his native land, this Andean Republic has become almost our only source of this strategic metal. It was back in the 1890's that Patiño undertook the colossal job of making the tough, rock-bound Bolivian Andes yield up its tin ores.

Without Bolivia's production of tin, the metal would now be a rare and precious commodity. But the land-locked Republic in the Andes has responded to its opportunity. Whereas in 1939 it produced 27,215 long tons of fine tin, its output this year has started at the level of a prospective 44,000 long tons, and every effort is being made to increase production so that at least the minimum needs of the United Nations will be supplied.

Wresting tin from the mountains is no easy task. Indeed, the difficulties of transportation and the hardness of the rock in which the tin is found have greatly handicapped the mining of the metal in Bolivia when compared to the more easily worked deposits in the Far East. Maine's "stern and rock-bound coast" is lush meadowland compared with the Altiplano, as the interior plateau of the Bolivian Republic is called.

Until Mr. Patiño introduced modern machinery and engineering, tin mining remained primitive, and the output of Bolivian tin was insignificant. But as progress came to the Patiño mines it spread to other mines in Bolivia.

Today the mines of Patiño Mines and Enterprises Consolidated Inc. produce approximately 37 percent of Bolivia's entire output of tin. A tracery of 300 miles of driftways has been bored into Llallagua Mountain. A miniature railway system follows the main drifts, and trolley locomotives haul the ore trains out of the mines to a modern mill where an 80 percent concentrate is produced. Power is provided by a dam and hydro-electric plant in the mountains at Lupi Lupi, and the diesel engines in use there are known as Patiño-type diesels because they have been especially designed for high altitudes.

It has been the traditional practice of Bolivian mines to ship tin concentrates to England for reduction into the "fine tin" of commerce. Although this tin thus goes into the pool available to the United Nations, the United States—with a large consumption of the metal but no production—decided to create as a war measure a more direct source of tin. It therefore negotiated with other Bolivian producers to take all their production; and it has built a smelter at Texas City, Texas, to process these concentrates. As a result of these timely negotiations, nearly half of the free world's production of tin is now processed in the United States.

Some tin is also obtained from the Cornish mines of the British Isles, which date from the Roman invasion of England, from mines in Nigeria, Africa, and other areas available to the United Nations. But the tin extracted from these mines cannot compare with the total tin output of Bolivia. (358)

Compound for Treating Incendiary Bomb Burns

Copper oleate is an ingredient of a recently developed British compound for treating burns due to phosphorus incendiary bombs. The compound is prepared by dissolving the copper in trichloroethylene and sulphonated castor oil.

In use the oil-soluble copper compound is applied by swabbing, pouring, or immersing burned areas. After inactivation of the phosphorus, the area is washed with tepid water, contaminating material swabbed off and an excess of sodium bicarbonate applied. Once acidity is neutralized, accepted methods of antisepsis and mild tanning are applicable for treatment of the burn itself.

(359)

Ethylene Gas Speeds Grain Ripening

Final ripening or curing of grain, the result of enzyme action, can be accelerated by treatment with ethylene gas diluted with several times its volume of air. Application of this treatment to underripe combine-harvested wheat immediately after harvesting made it possible to store a large quantity of the wheat in bins without excessive heating, whereas untreated grain spoiled from bin burning in less than 10 days.

When ethylene was applied to shelled corn from freshly harvested ears in the same concentration and manner as were used with wheat, it had practically no effect. (360)

Yam Bean Has Insecticidal Value

Possibilities of the yam bean as a replacement material in the manufacture of insecticides are currently under intensive investigation. In preliminary work samples of seeds from Central and South America and from China have been tested and all have shown marked toxicity. Several thousand acres of the plant are reported to be under cultivation in Mexico, but in other Central American republics cultivation is limited to small plots by local gardeners.

If any substantial supplies of yam beans become available, and if further tests bear out their insecticidal value, they may serve during the 1944 season as a valuable adjunct to short supplies of pyrethrum and rotenone. (361)

* * * * *

Blackening of potatoes which often occurs after cooking can be reduced or prevented entirely by storing potatoes at 100 deg. F. for 3 or 4 days immediately after digging and then removing them to normal storage. After such treatment the tubers remain in good edible condition. Blackening is also decreased by boiling the potatoes in acid solutions but in most cases is increased by boiling in alkaline solutions. (362)

NATIONAL CAN



PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

pH Factor Important In Canned Foods

There appears to be a direct correlation between pH and the growth of staphylococcus aureus in canned foods. When cans were inoculated with the organism and incubated for periods up to 60 days at 71.6 and 89.6 deg. F., no growth occurred in the acid foods, such as tomato juice. In contrast, there was some growth in the semi-acid foods—aspargus, spinach and string beans. And growth occurred in the low-acid groups—beans and corn and shellfish and salmon. (363)

One Reason Our Bombardiers Don't Miss!



CHARGE SPOTTING ASSEMBLY—Inserted in the tail fin of practice bombs, the black powder contained in the charge is ignited when the missile hits the ground. By photographing the resulting puff of black smoke, the bombardier is able to record hits and misses. These containers are manufactured by National Can Corporation for the Army Air Forces. (364)

Ideal Fumigant For Dairy Products

Methyl bromide fumigation is suitable for dairy products. It is toxic to all forms of insect life, including cheese mite and cheese skipper, weevils and roaches and their eggs. It is effective at low temperatures, whereas many other fumigants become ineffective when the temperature drops.

Thanks to its penetrating power, it can be used satisfactorily in vaults, coolers, curing rooms, warehouses or factories tight enough to confine gas. No off-tastes or off-odors are introduced into the dairy products so fumigated. (365)

"DRY DEATH" FOR INSECTS—A new chemical dust, inert, insoluble in water, non-poisonous and free from danger of silicosis, has been developed in England to kill insects in grain and cereals. A fine, white inorganic powder, it does not adhere to the grain but kills the insects by desiccation—drying them to death. (366)

ALCOHOL FROM SEAWEED—Experiments in Eire with laminarin, a seaweed product, show a high content of glucose and alcohol. Yields of 13 to 16.9 gallons of ethyl alcohol per ton of air dried weed have been obtained. (367)

FLOWER ABSOLUTE FROM COFFEE—The Puerto Rico Agricultural Experiment Station has successfully extracted a flower absolute from coffee-flowers, at a cost comparable to other absolutes formerly imported. Coffee-flower odor is delicate and desirable in perfumery. (368)

AQUEOUS RUBBER CEMENTS in emulsion form are declared to offer advantages in the manufacture of leather and similar materials. Soap is used as a stabilizing agent in the emulsions. The aqueous cements are said to have the advantages of being non-inflammable and avoid the odor and toxicity problems of cements containing organic solvents. (369)

NEW PROTEIN—A new crystalline sulphur-containing protein has been discovered which is very toxic to yeasts and certain bacteria but harmless to small animals. Discovered by chemists of the Department of Agriculture and named "purothionin", the substance is expected to have uses as a food preservative and as a medicinal agent. (370)

pH IN MEAT—The pH in cured pork has a direct influence on the color development in the meat. With a pH below 5 it is impossible to obtain proper color fixation. Moreover, the meat becomes less tender with decreasing pH; moisture loss or shrink increases and the flavor is sour. A pH range of 5.2 to 6 seems best for the meat. (371)

MEAT—A method has been developed to improve the flavor and tenderness of beef and lamb carcasses by covering them with a brine-moistened cloth and insulating bag prior to chilling. (372)

CARMELIZATION PREVENTIVE—Carmelization in orangeade, lemonade, and similar synthetic citrus powders packed in cans and containing a high proportion of citric acid can be prevented by using anhydrous citric acid or substituting glucose for sucrose in the preparation. It was also found that caramelizeation does not occur, in the absence of added water, if d-tartaric acid is substituted for citric acid. (373)

BUTYLENE has been shown by Russian investigations to have a stimulating effect on the speed of growth of fruit trees bringing them to fruition far faster than when it is not employed. Application of butylene was recommended especially for those areas where the growth season is too short to permit the full maturing of trees due to inclement weather. (374)

PECTIN—As a substitute for water-soluble gums which are imported, pectin has shown promise in certain cases as an emulsifying and thickening agent in foods and pharmaceuticals. Dextrin from grain starches can fill in for some of the natural gums, especially acacia. (375)

COLD TEST—A dye test shows in one minute whether a cold is caused by infection or allergy, according to a report before the American Public Health Association. About 12% of children suffering from cold and bronchial ailments are subject to an allergy rather than an infection. (376)

GLYCERIDE OILS can be stabilized against oxidative deterioration by the addition of a small quantity of phosphorus derivative of polyhydroxy aromatic compound, with subsequent heating to more than 250 deg. F. under less than atmospheric pressure. (377)

FRUIT FLAVORING AND COLORING—Natural aromatic fruit flavoring and coloring are stabilized against oxidative deterioration by the addition of hydroquinone, toluidinehydroquinone, catechol and resorcylated hyde. (378)

ALCOHOL FROM FLOUR—Alcohol is now being produced from flour in a large American distillery. The plant formerly employed blackstrap molasses imported from Cuba. (379)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

NATIONAL CAN CORPORATION

Manufacturers of

**SANITARY PACKERS CANS • PLAIN AND LITHO-
GRAPHED CANS FOR FOODS, DRUGS, OILS,
PAINTS, VARNISHES • STEEL DRUMS AND PAILS**

Deliveries Subject to Priority Ratings

(Advertisement)

What has *Miss Anne Barratt** to do with your packaging problem?



* NAME FICTITIOUS

Miss Barratt represents thousands of loyal Miss Americans in industry today . . . girls whose time is at a premium. Every motion and moment they lose not only slows your production but raises your costs.

That is why the set-up paper box solves so many packaging problems. By being rigid, ready to use,

it loads faster, saves packaging time. And its strong construction plus its protective covering papers move vital products more safely.

Why not investigate *all* the advantages of today's most readily available package? Consult any Master Craftsman below.

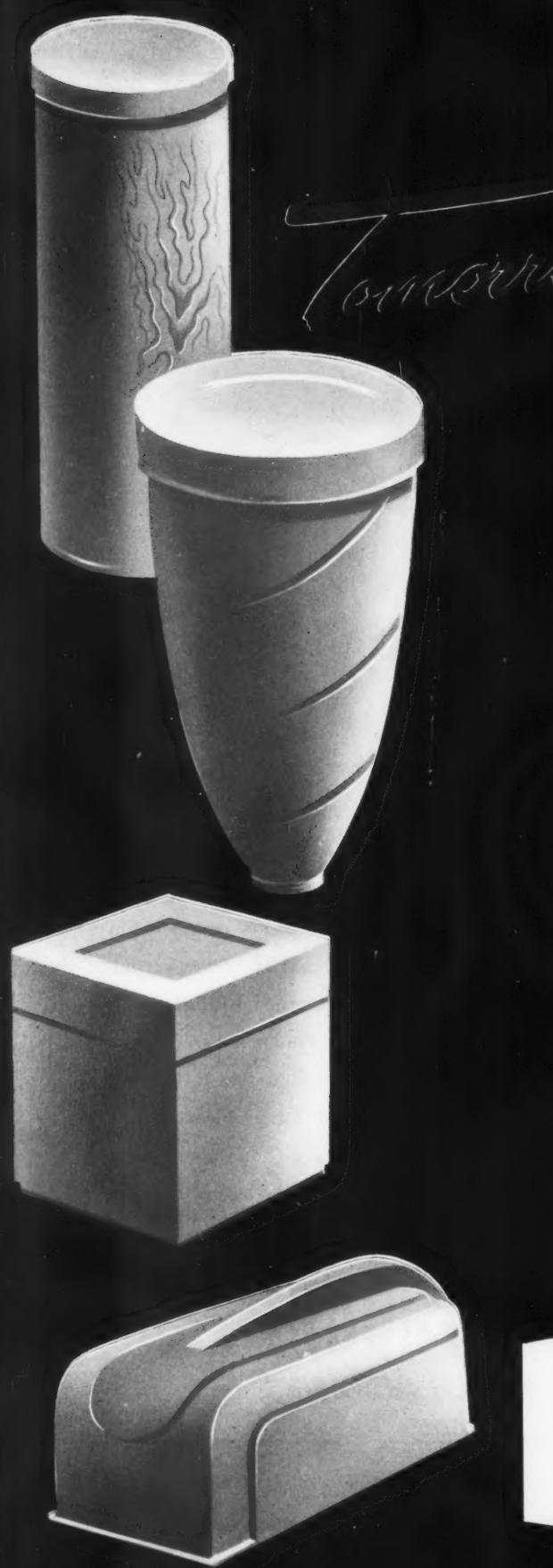
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Master Craftsmen
OF THE SET-UP PAPER BOX INDUSTRY



NEW PLASTICS FOR Tomorrow's Packages

New plastics with many characteristics designed for the *ideal* package, developed under the urgency of war, will set new styles for tomorrow's sales... will give the designer new opportunities and greater freedom in transforming functional and decorative *ideas* into practical reality.

New fabricating techniques, also, will be available for the fast, economical production of these new designs.

Those who are planning post-war styles to meet tomorrow's competition may find the answer to their needs among these new developments...

For example, MELMAC*, a product of Cyanamid research, offers extremely low moisture absorption, is impervious to prolonged immersion in boiling water, is chemically inert, non-staining, highly resistant to nearly all common chemical agents. MELMAC will be available in color.

Should you wish more information on this or other new developments in plastics for packaging, write us outlining the characteristics of the material you need. We may already have it waiting for you.

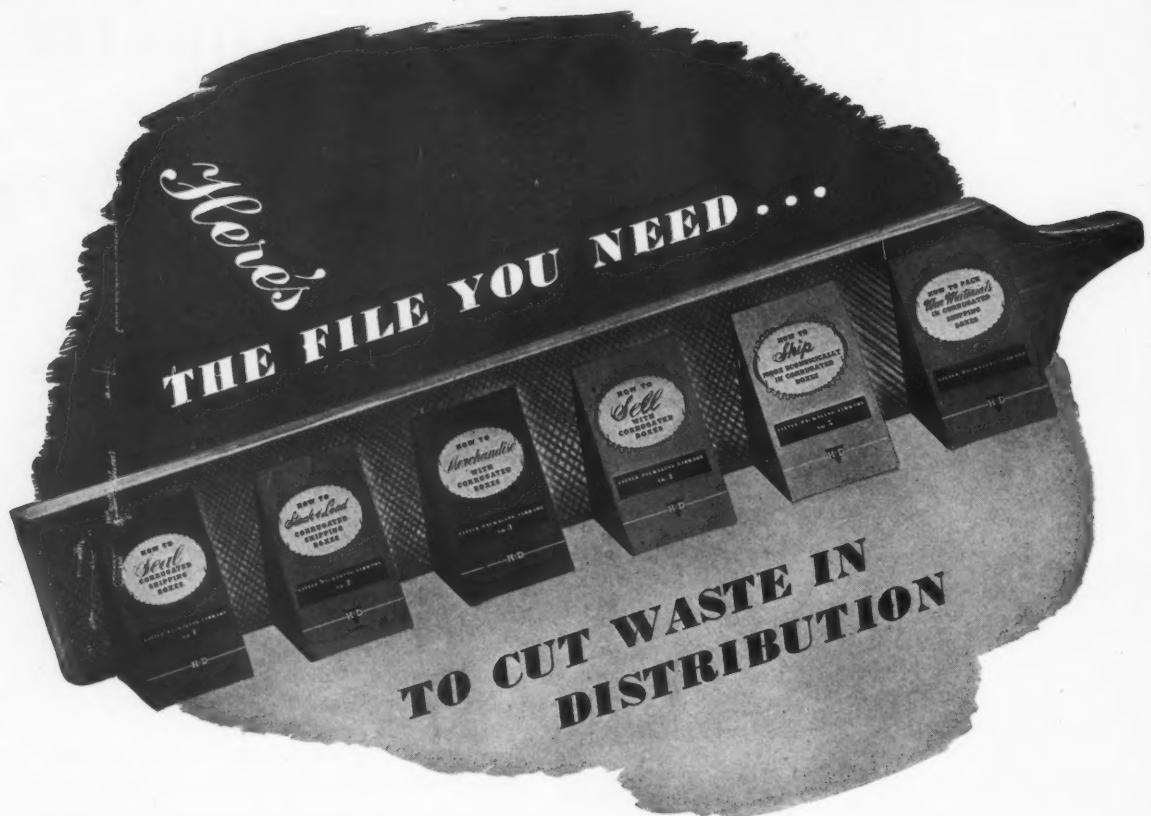
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PLASTICS DIVISION
34 ROCKEFELLER PLAZA • NEW YORK, N. Y.

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CYANAMID PLASTICS
BEETLE • MELMAC • URAC
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IT'S HANDY . . . it's helpful . . . it has dozens of applications in hundreds of businesses. It will help you smooth out rough spots in packing, shipping and distribution, give you an edge in efficiency.

There's no time like the present to make use of this tool. The enormous load being carried by the railroads means inevitable waste of materials, machinery, manpower and transportation facilities. That waste can be curtailed

only if every manufacturer takes immediate steps to improve shipping methods.

The first step is to send for this complete file of packaging "text-booklets." Every man in your organization who is concerned with shipping and distribution will find this "refresher course" in packaging a definite aid in locating and correcting many of his problems. Write for as many sets as you need . . . they're yours for the asking, FREE, without obligation.

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BETTER SEE  AUTHORITY ON PACKAGING

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Just a few newspaper clippings of a single war day

All IN A DAY'S WAR

NAMES of fighting Americans—the news is full of them. Rito, Sullivan, Joseph, Erickson, Feldman, Chennault... Good American names—because they're the names of good Americans.

Goode, Lizotte, Stein, Palinkas, Janowski... Superior races? You bet! Every race is superior under Democracy.

Democracy provides the rich soil for growth, the warming sunshine of opportunity, the clean breath of freedom. The sky's the limit for Democracy's sons!

These men don't speechify about Democracy. They're too

darn busy working, fighting, living, and dying for it. These men don't bask in the glory of their dead ancestors. They have earned a glory of their own. They know that Democracy brought them together and made them one.

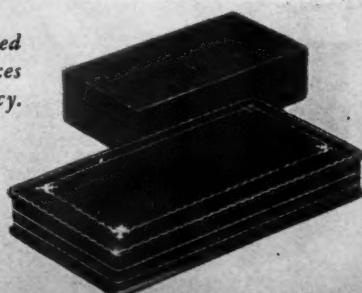
Foreign sounding names? Then your ear isn't tuned to American Democracy. For among the fathers and godfathers of our Democracy were Schuyler, von Steuben, Lafayette, Kosciusko, General John Sullivan, Haym Solomon... No truer heirs have they than Rito, Sullivan, Joseph, Erickson, Feldman, Chennault... Goode, Lizotte, Stein, Palinkas, Janowski.

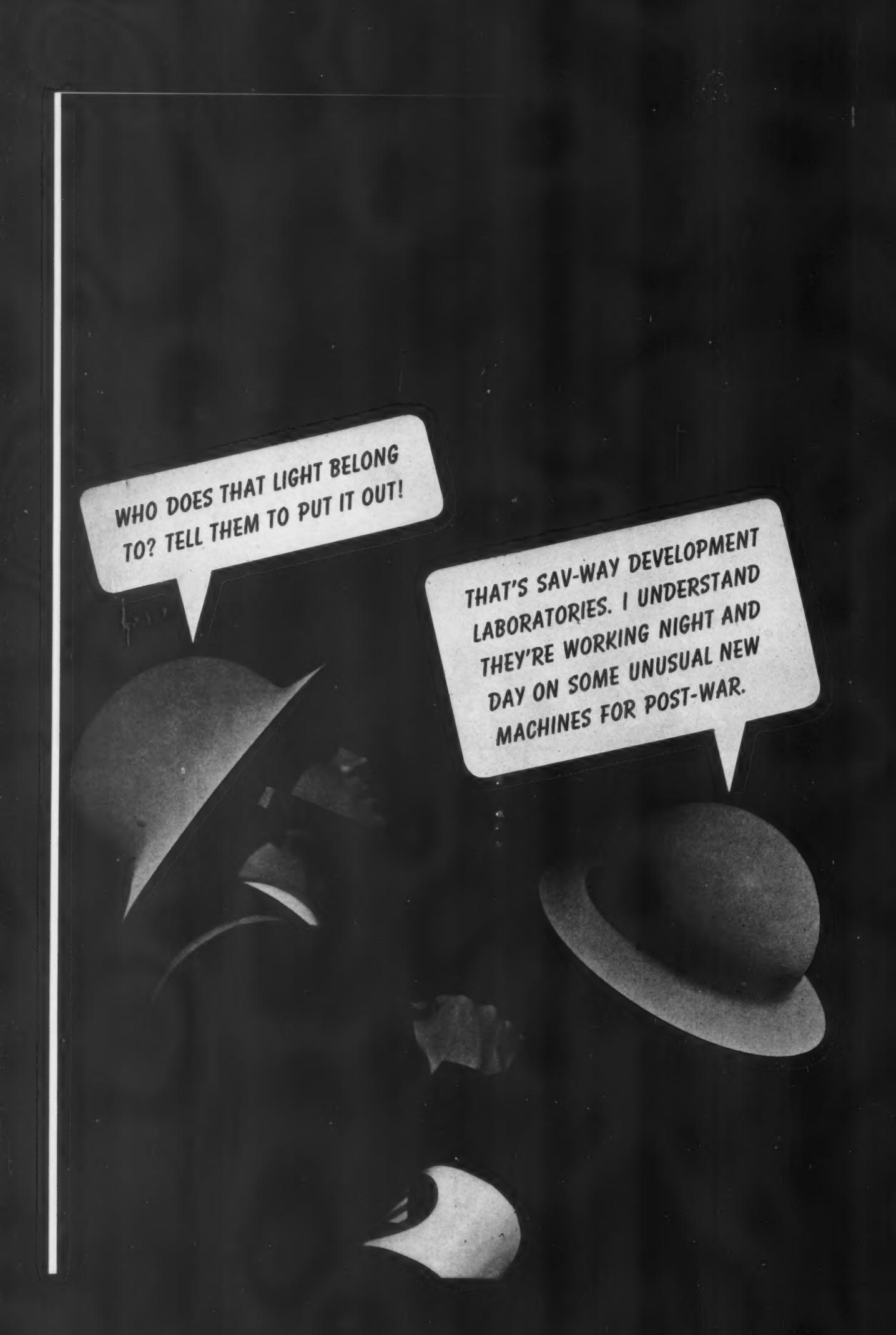
One of a series of editorials published in the interest of the War Effort. Back up our heroes! Buy more Bonds!

Arrow is proud that its facilities have been enlisted by the Army and the Navy to make many of the boxes which hold the medals for heroes of democracy.

BOXES AND DISPLAYS

ARROW MANUFACTURING COMPANY, INC., 15th and Hudson Streets, Hoboken, N. J.





WHO DOES THAT LIGHT BELONG
TO? TELL THEM TO PUT IT OUT!

THAT'S SAV-WAY DEVELOPMENT
LABORATORIES. I UNDERSTAND
THEY'RE WORKING NIGHT AND
DAY ON SOME UNUSUAL NEW
MACHINES FOR POST-WAR.



OUR LABORATORY WORKS 24 HOURS

EVERY DAY



*"Always on
the Alert"*

SHELLMAR will convert any GOOD material into packages, but we insist that our laboratory make exhaustive independent tests before we make a recommendation.

The laboratory is equipped with every known testing device INCLUDING THE STANDARDIZED METHOD OF TESTING MOISTURE-VAPOR TRANSMISSION ADOPTED BY THE ARMY-NAVY AERONAUTICAL BOARD.

It's a long step from a successful material to a successful package. Precision machinery and skilled personnel are not enough.

Our laboratory sets up controls on PRODUCTION operations as well as on the FINISHED PACKAGE.

One more reason why Shellmar packages are found in all branches of the Armed Forces.



SHELLMAR
PRODUCTS COMPANY



224 S. Michigan Ave.
CHICAGO, ILL.

MOUNT VERNON, OHIO
PASADENA • CALIFORNIA

3115 Empire State Bldg.
NEW YORK, N.Y.

YOU CAN SAY THAT AGAIN...



"It's quite apparent that attention to detail receives plenty of detailed attention around here," remarked Mr. W., a recent visitor who was being shown through our plant.

That he should make such an observation is not surprising. If there's one thing to which we've always given the utmost attention, it's the small, seemingly unimportant operations that are so likely to be handled in a perfunctory sort of way.

A long-established Carr-Lowrey maxim is that "accuracy needs no excuses!" Consequently, from preliminary design to finished product, every order we receive, regardless of size, is accorded the most painstaking consideration by workmen jealous of their reputation for top quality craftsmanship.

Yes, **YOU CAN SAY THAT AGAIN**, Mr. W., "attention to detail receives plenty of detailed attention around here!" And you might add that it applies to every type of glass container we make, whether for cosmetics, drugs, household or food products.

**CARR-LOWREY
GLASS CO.**

Factory and Main Office: BALTIMORE, MD. New York Office: 500 FIFTH AVENUE Chicago Office: 1502 MERCHANDISE MART



GROWING MORE FOOD

is not enough!

We need to grow more food... but growing food is not enough... it must be processed and preserved, kept ready for use whenever and wherever needed. This problem of food preservation is now a complicated one, for many materials are no longer available... nor can the food packer be sure where his product will be shipped, or how long it may be in transit or storage.

We have helped many firms to meet these wartime packaging needs, for protective packaging has always been the primary function of Riegel Papers. Their requirements and government restrictions on output now prevent us from accepting new business... but we are still just as able and willing as ever to help you find a solution to your present packaging problems, or to assist in preparing new horizons for your food packaging of tomorrow.

RIEGEL PAPER CORPORATION

342 MADISON AVENUE, NEW YORK, N. Y.

86



STRONG

It's a comforting thought that those who will inherit the peace we shall win are going to be strong and healthy to enjoy its benefits. For intelligent programs permit the armies of war and industry to be the best fed in the world, with more than enough left for those we love at home.

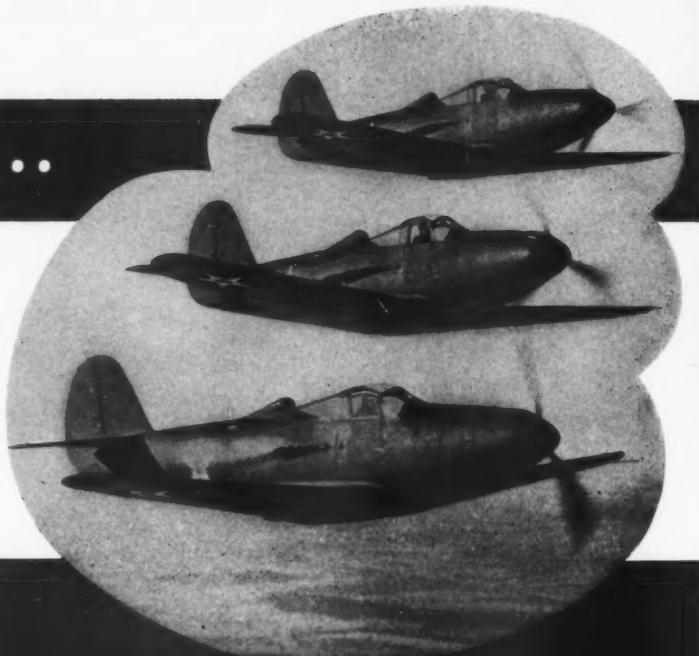
Hazel-Atlas plays its part in the food program by devoting its facilities to the production of standardized food containers—mass production methods to help feed the fighting and home fronts.



HAZEL-ATLAS GLASS CO. WHEELING, W. VA.

UNIFORMITY...

the result of
PRECISION
in PRODUCTION



**Shatterproof
SEAMLESS
COLORFUL
CONTAINERS**

During—and after—the war, **CELLUPLASTIC** containers will be preferred because they offer exclusive features valuable to your product. . . . Our staff will be glad to submit ideas and designs for your approval.





RIGHT NOW UNCLE SAM is the packer's first market. The needs of Army, Navy, Air Corps and Marines take every precedence. Everything packed for them must be ready for extremes of conditions which would be fantastic in any but wartime.

For example, this Field Ration D is a lifesaving item that looks like a candy bar. Improper packaging might render it as useless as a cast-iron life belt. And here are some of the hazards this package must be ready to meet unfailingly:

- Sub-zero Cold
- Submersion in Sea Water
- Tropic Heat
- Rough Handling
- Jungle Humidity
- Long Storage
- Corrosive Sea Air
- Gas and Smoke

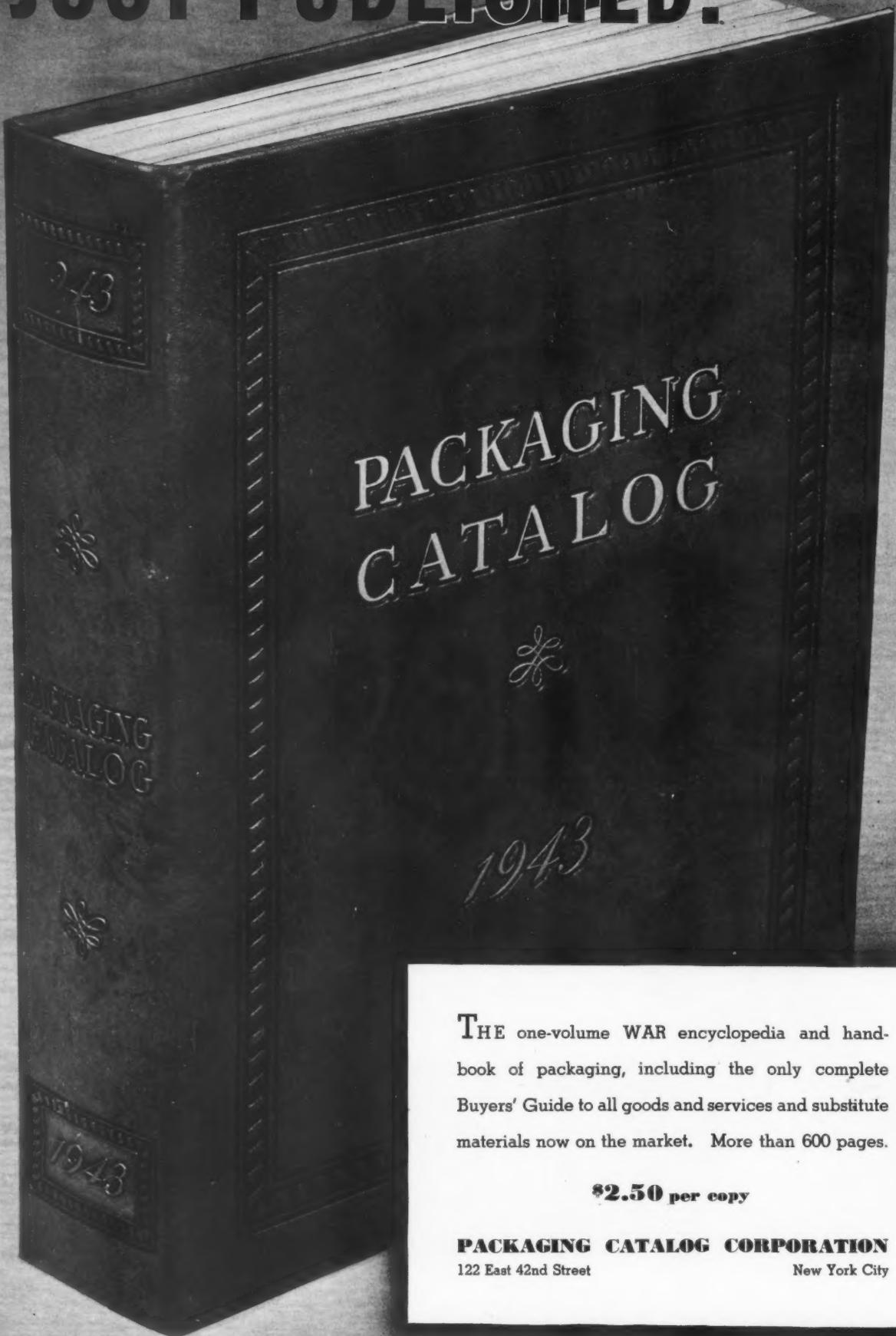
In a future day a similar product, prepared more particularly for taste appeal than concentrated nutrition, will have a different package but one just as definitely designed for its purpose. It will appeal to the sweet tooth; it will be glamorous and attractive; it will be adequately protective; it will safeguard flavor and goodness; and very likely it will be designed by Dobeckmun, as in the past.

Our long experienced package engineers and designers are accustomed to taking problems as they come. Right now they are adding to their experience as they meet war's exacting demands. They will have advanced techniques and developments when peacetime packaging needs again demand satisfaction.



THE **DOBECKMUN** COMPANY
CLEVELAND, OHIO OAKLAND, CAL.

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THE one-volume WAR encyclopedia and handbook of packaging, including the only complete Buyers' Guide to all goods and services and substitute materials now on the market. More than 600 pages.

\$2.50 per copy

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122 East 42nd Street
New York City

AN AMERICAN INSTITUTION WORKING WITH AND FOR AMERICA



No sentinel of the skies could more conscientiously perform his patriotic duties than does every veteran in Rhinelander's army of papermakers. The unparalleled importance of food protection papers in expediting America's war effort demands an alertness in production that extends progressively from pulpwood to finished product. The momentous task of food conservation is a major Government aim to which fortunately we can bring a wealth of experience augmented by highly skilled personnel and completely modern productive capacity. Constantly we strive to im-

prove on past performance, and shall continue so for the duration and beyond into the post-war days when peace again abides with us.

Wolke Rechler
PRESIDENT
RHINELANDER PAPER COMPANY

RHINELANDER
PROTECTIVE PACKAGING
Papers

FROM THE BEST THAT'S MADE TO THE CHEAPEST THAT'S GOOD

Genuine Greaseproof
Coffee Bag Papers
Confectionery Papers

Cereal Wrapping Papers
Laminated Greaseproof Papers
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Bakery Product Wraps
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Wax Laminated Glassine
Opaque Label & Bag Glassine
Packing Industry Wrappings

RHINELANDER PAPER COMPANY • MILLS AT RHINELANDER, WISCONSIN, U.S.A.

GAIR BOXES DELIVER



TO OUR FIGHTING FRONTS

Plasma, bullets, bandages or food—these may spell the difference between life and death, victory or defeat for our fighting men. The containers that carry them to their far-flung destinations must be worthy of the responsibility. Gair containers have proven their worth on all fronts, all types of terrain, in all climes and temperatures. Supplies packaged by Gair arrive whole, dry, and perfect, ready to do their job in bringing victory closer.

Robert Gair Company, Inc., New York—Toronto.



Blood Plasma, Packed in Paperboard Cases
Army



Write for booklet showing photographic record of ocean submersion tests made by Gair to meet U. S. Quartermaster Specification No. OQMG-93, Navy Specification 53B11, Lend-Lease Specification FSC-1742-B and FMS-511.

FOLDING CARTONS • BOXBOARDS • FIBRE & CORRUGATED SHIPPING CONTAINERS

RING LET FREEDOM RING

LET FREEDOM RING!

LET FREEDOM

LET FREEDOM RING LET FREEDOM

RING! LET FREEDOM RING!

RING LET FREEDOM RING

LET FREEDOM RING!

LET FREEDOM

Packaging Theme for the duration



Swing to PATRIOTIC PAPERS for the duration — that's the best way to tie your merchandising in with the public's thoughts and consideration.

Smart merchandising will call for the use of colors and designs with patriotic sentiment — timely and in good taste.

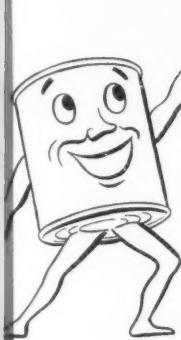
This sample shows one of our PATRIOTIC PAPERS — there are others too, which you will want to see. Just write us for a sample set or for working sheets.

This Sample • W.W. 775

ROYAL PAPER CORPORATION

Manufacturers of Decorative Papers

ELEVENTH AVENUE AND 25th STREET
NEW YORK, N. Y.



CROWN CAN has a real interest in that Baby!

Recognize it? If you don't... the Japs do... to their sorrow.

It's a Vought-Sikorsky (Corsair) ... fastest fighting plane of the United States Navy.

The skill and craftsmanship that is producing Crown Cans is also employed in making cowlings for the engine of this Vought-Sikorsky fighter.

And here's what Mr. J. M. Barr, Assistant General Manager, of Vought-Sikorsky Aircraft, says about how well Crown is doing its part of the job:

"Mr. Schramm says the fit is excellent and the work-

manship leaves nothing to be desired... It is the desire of this division to take pride in the work of its subcontractors and we certainly feel justified in the case of the Crown Can Company."

"The workmanship leaves nothing to be desired." Thank you, Mr. Barr!

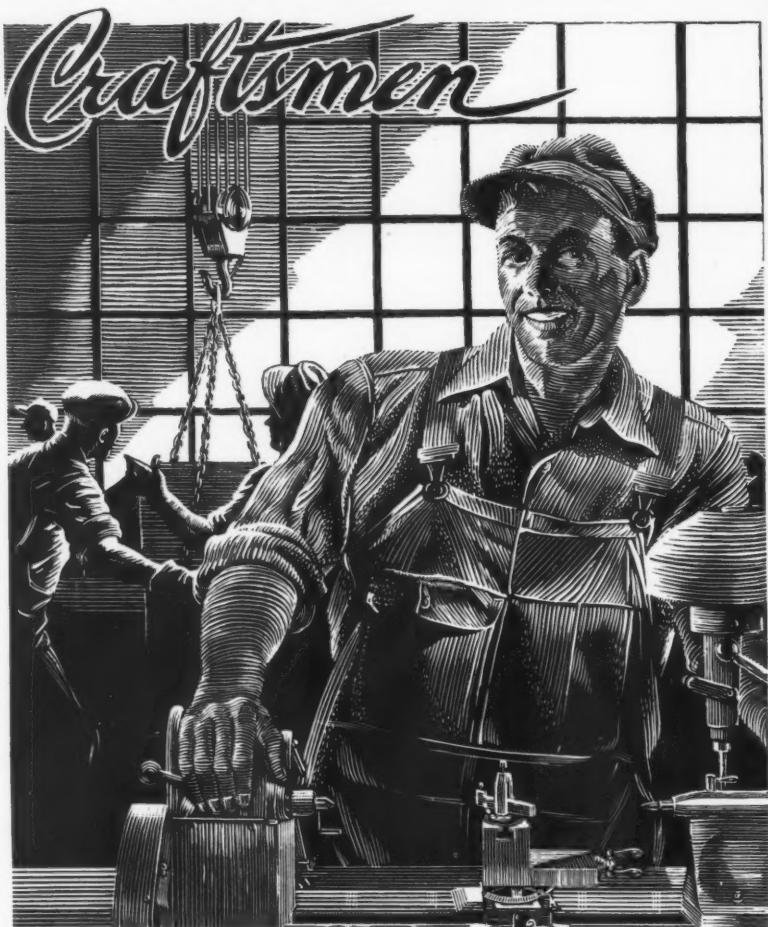
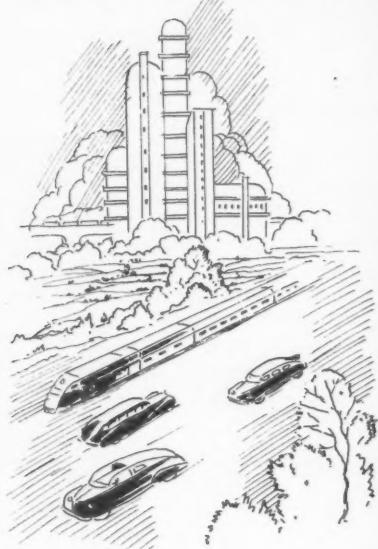
But that's an old story to those who have known for years that the workmanship which goes into Crown Cans was always of that same standard... just one more example of how Crown Can is serving the Nation.

CROWN CAN COMPANY, PHILADELPHIA • NEW YORK • Division of Crown Cork & Seal Co. • Baltimore, Md.

★ ★ ★ ★ ★
CROWN CAN

THE AMERICA OF TOMORROW

Skilled
ARE WORKING
AND WAITING



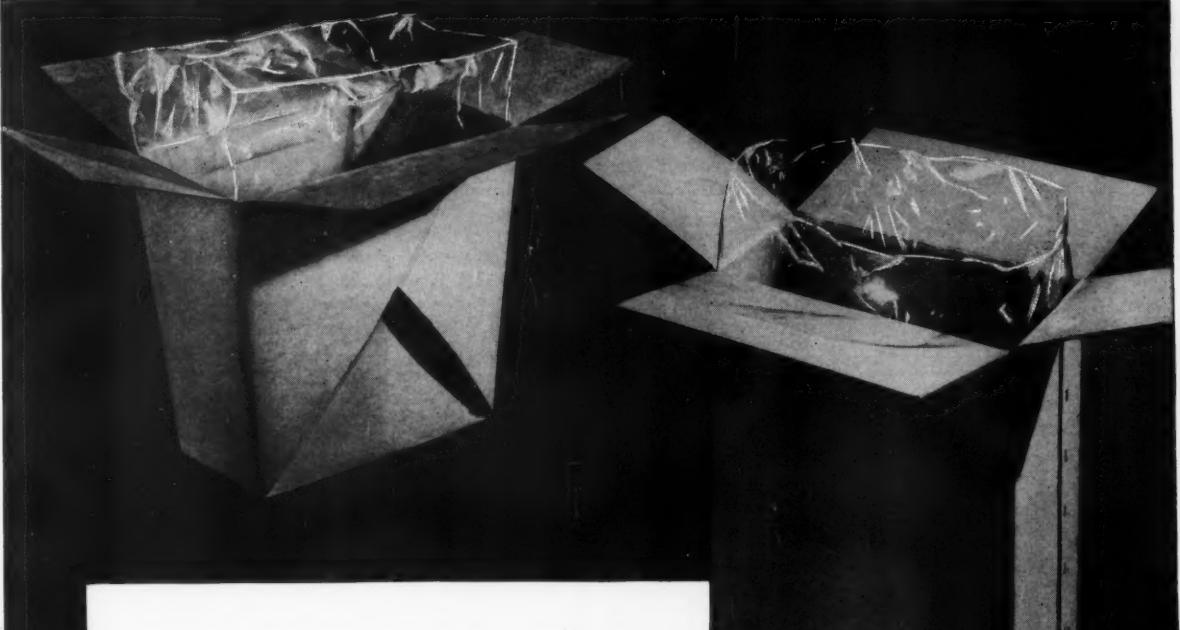
Even as skilled craftsmen are working overtime today to bring Victory nearer, they are patiently waiting for the day when they can utilize those war-time skills for peace-time production! The brains and energy of all America are focused on plans of the future! We, of the Sefton Fibre Can Co., too, are looking ahead! Our designers, foreseeing your needs, are creating, planning for you, while they await the America of Tomorrow! May the time be brief!

SEFTON FIBRE CAN COMPANY

Plants — St. Louis, Missouri • New Orleans, Louisiana

DISTRICT OFFICES:

New Orleans	Boston	Los Angeles	Detroit	Kansas City	San Francisco	St. Paul	Denver	Omaha	Tampa	Chicago	Cincinnati	Des Moines	Cleveland	Seattle
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Metal replacement containers for institutional packs

THE DU PONT CELLOPHANE BAG-IN-BOX

Here are shown three types of institutional size metal replacement containers (10 to 50 lbs.), suitable for frozen fruits and vegetables, frozen eggs, as well as lard, shortening and similar products which require sanitary, protective packaging.

Each container employs the Cellophane bag-in-box principle. A Du Pont Cellophane bag, inserted in the carton by means of a simple mandrel, forms a leakproof inner-liner which provides satisfactory protection against dehydration, oxidation and other elements affecting these perishable foods.

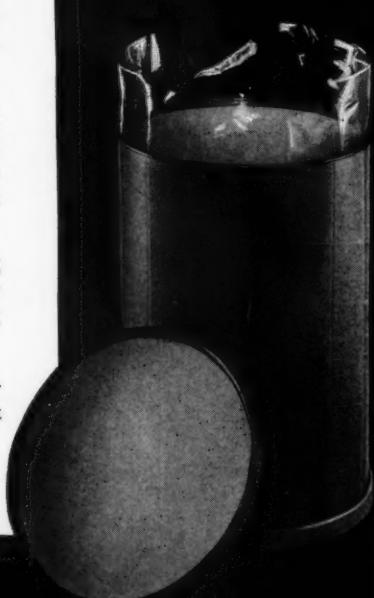
These Cellophane bag-in-box containers are already being used successfully in many branches of the food industry. They are efficient, economical, and possess adequate structural strength. They are easy to handle in production operations.

For further information concerning these bulk metal replacement containers, write Cellophane Division, E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.



Cellophane FOR VICTORY PACKAGES

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY





SERVING ON ALL FRONTS!

FROM the Solomons to Syria . . . from Seattle to Savannah, paperboard serves America and her Allies. Here at Sutherland, we're fabricating packages to safeguard army field rations . . . to carry and identify replacement parts for mechanized equipment . . . to take millions of pounds of dried eggs to our soldiers and Allies . . . to replace containers that once required steel, tin, and other critical materials . . . and to protect food and other necessities for civilians. In addition, our paper bottles, cups, and plates are guarding the health of fighting men and war workers. Pearl Harbor and ensuing events have sped the evolution of paperboard a hundredfold. Tomorrow's peacetime containers will consequently be more attractive, more economical, more useful.

ARMY FIELD RATIONS



PROTECTION AGAINST EPIDEMICS



LEND-LEASE



REPLACEMENT OF STRATEGIC MATERIALS



REPLACEMENT PARTS FOR FIGHTING MACHINES



CIVILIAN SUPPLY



SUTHERLAND PAPER COMPANY
KALAMAZOO, MICHIGAN

Out of the Ground Into the Sky!

This good old American soil is on its way out of the ground into the sky to help win this war.

It is Bauxite ore . . . the basic source of aluminum.

Reynolds is digging it out of peaceful hills in Arkansas and, as if by magic, changing it into finished metal. Just when we need it most, *America has a great new independent source of aluminum.*

Experts called it a miracle. But it wasn't a miracle. It was foresight and courage and experience. And even more, it was the skill and the sweat of thousands of Reynolds workers.

Long before Pearl Harbor, Reynolds saw the coming need and staked all its resources to mine Bauxite in America and build mammoth new plants. When war came, Reynolds was ready and rolling with vastly expanded facilities across the country.

Today, Reynolds workers are bringing hundreds of millions of pounds of aluminum . . . *out of the ground into the sky.*

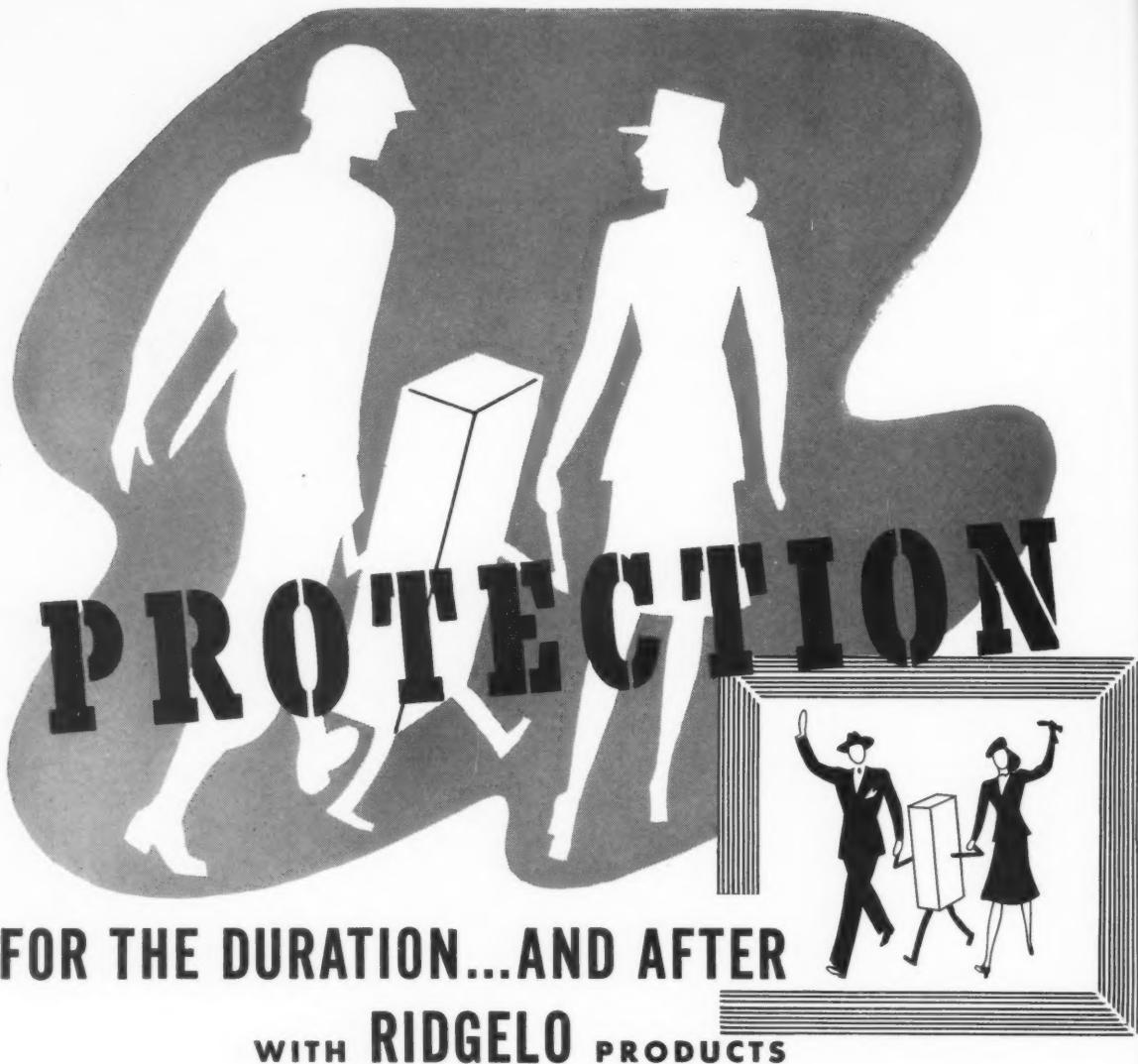
REYNOLDS METALS COMPANY

General Offices: Richmond, Va.

Parts Division, Louisville, Ky.

37 PLANTS IN 13 STATES





FOR THE DURATION...AND AFTER

WITH RIDGELO **PRODUCTS**

Serving the vital needs of conversion and essential packaging is our daily task now. These protective paperboards prevent breakage—mean light-weight, space-saving shipping units—stop spoilage—guarantee uniform weight and quality. Every product needs all this and more—

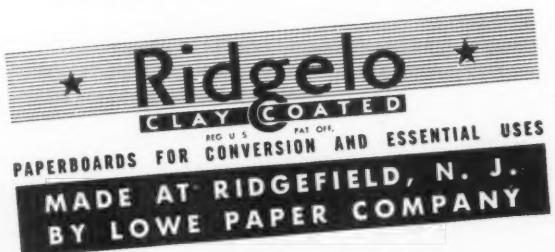
Look to the future with its changed marketing

methods, new packages. What will remain? Tradenames, consumer preferences, packing safety, dealer cooperation—each is necessary to make products sell.

Guard these interests—ready them for expansion with the *best package obtainable today*—a Ridgelo product.

LEADERS IN CONVERSION PACKAGING.

Drugs	Coffee, tea
Pharmaceuticals	Cocoa, chocolate
Chemicals	Cereals
Bandages and tape	Rubber goods
Tobacco	Dehydrated products
Building materials	



Representatives: E. C. Collins, Baltimore • Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
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THESE
ADHESIVES

form a wall against Weather and Water



GLU-WELD Adhesives are among the most weatherproof and waterproof on the market today. They are being employed in packaging various materials for overseas shipment under many different specifications. Equally useful in sealing waterproof duplexed stocks and "V" type solid fibre cases, manufacturing Ration and other wartime folding boxes and waterproof bags. The GLU-WELD line is rapidly becoming known as the foremost adhesive of its type in the country.

We invite all packagers of war goods being shipped overseas to write for samples. Such requests must be accompanied by a brief description of the use to which the sample is put, the make of the materials being used, and a complete description of the END USE involved. Raw materials of these adhesives are on Allocation, and only customers submitting satisfactory END USE descriptions can be taken care of.

This material is available in the Mid-West territory through

F. G. Findley Co.

1943 N. 10th St.

Milwaukee, Wisconsin

Available in the East through

Union Paste Company

1605 HYDE PARK AVENUE • HYDE PARK, MASS.



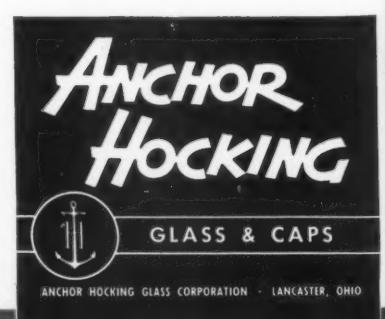
WHO DEVELOPED
THE FIRST
LIGHTWEIGHT
GLASS CONTAINER,
MR. WALKER?

ANCHOR HOCKING
-BACK IN 1933

Ten years ago, Anchor Hocking engineers developed the world's first really lightweight glass containers for commercial use. As a result of this leadership, new and important features were added to the unsurpassed advantage of transparency—lower freight charges, extra strength, greater resistance to thermal shock, faster processing, less wear and tear on equipment and many other sales, merchandising and manufacturing benefits.

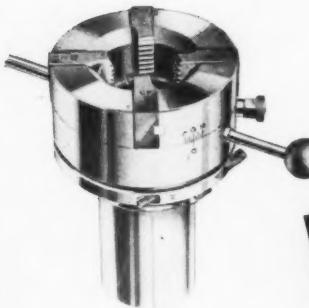
This great "first" was a quart capacity salad dressing jar, lighter by $3\frac{1}{2}$ oz. Others developed shortly thereafter included a pint mayonnaise jar, 2 oz. lighter; one and two pound peanut butter jars, $2\frac{1}{2}$ and $3\frac{1}{2}$ oz. lighter respectively; a 40 liquid oz. coffee jar, $7\frac{1}{2}$ oz. lighter; and a $2\frac{1}{2}$ gallon barrel jar 32 oz. lighter...all forerunners of today's standardized, lightweight glass containers.

R. E. WALKER, one of Anchor Hocking's ablest and most popular men, has been a member of the Anchor Hocking family for 37 years.



THE GEOMETRIC TOOL COMPANY

Machinery and Tools
For Cutting Screw Threads
NEW HAVEN, CONNECTICUT, U. S. A.



Makers of tools and machines for the production of screw threads on a production basis. The Geometric Tool Company is vitally contributing to our war effort. Just as care is taken in manufacturing accounts for their reputation for precision, so also are they careful in protecting their product in shipment. For quick, safe, convenient shipping, Geometric has chosen Mason Box Company's famous MailMasters. Here one of Geometric's shippers is checking off Mason MailMasters ready for delivery to the production centers of the world.

MAILMASTER - PAT. 1889274
THE MASON BOX COMPANY
ATTLEBORO FALLS, MASS.



THE MASON BOX CO.
ATTLEBORO FALLS, MASS.

175 5TH AVE.
NEW YORK



Ambassador for a thousand products

The wholesaler's salesman is the ambassador for yours and 999 other products. This does not permit him to push them all.

Hence, the manufacturer must win retailer support for his own product. In accomplishing this end, Bemis Deltaseal Bags have an outstanding record.

Their colorful brand printing adds eye appeal. Their handy pouring spout wins quick consumer preference. Their square ends make them easy to stack on shelves or in mass displays. Hence, retailers get behind products packed in Bemis Deltaseal Paper Bags.



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See for Yourself . . .

This thin, tough, transparent sheet of Sylvania* Cellophane possesses all the strength and other properties necessary to completely protect foods of all kinds. Whatever your particular food packaging problem, there is a type of Sylvania Cellophane that will meet your requirements.

Sylvania Cellophane*

SYLVANIA INDUSTRIAL CORPORATION
General Sales Offices: 122 East 42nd Street, New York City
Works and Principal Offices: Fredericksburg, Virginia
*Trade Mark Reg. U. S. Pat. Off.



WHEN CONVERSION CALLS FOR ... INGENUITY. *Plus* +

These are the days when even the expected arrives all too soon. Changes in the product or the container that takes it to market frequently call for Ingenuity — PLUS.

When it comes your turn to look for a new container, its design may call for Ingenuity — its production will certainly call for the Plus — the resources in equipment, materials and men to deliver on time.

Old Dominion has both.

And though capacity operation has become routine in meeting the needs of wartime package conversion, your container problem too will find a welcome here. Call on Old Dominion.

Call On

OLD DOMINION *Box* COMPANY
CHARLOTTE, NORTH CAROLINA
PLANTS IN SEVEN SOUTHERN CITIES

Folding Cartons • Set-Up Boxes • Convolute • Spiral Wound and Corrugated Containers
PACKAGING THAT SAVES CRITICAL MATERIALS FOR THE NATION



Service or Civies

Whether in the armed services or on the home front, she still responds to the appeal of smart packaging . . . of gleaming graceful glass. Yet smart as are the designs created by Maryland Glass in pre-war days, they will yield to even more alluring styles, after Victory. Watch for them . . . they'll help assure your product of its rightful place in competitive postwar markets.

Maryland

FLINT BOTTLES AND JARS



MARYLAND GLASS CORPORATION, BALTIMORE, MD. . . . New York: 270 Broadway . . . Chicago: Berman Bros., 1501 S. Laflin St. . . . St. Louis: H. A. Baumstark, 4030 Chouteau Ave. . . . Memphis: S. Walter Scott, 435 S. Front St. . . . Kansas City, Mo.: Aller Todd, 1224 Union Ave. . . . Cincinnati: J. E. McLaughlin, 401 Lock Street . . . San Francisco: Owens-Illinois Pacific Coast Company.

OWENS-ILLINOIS GLASS COMPANY

CO-OPERATING WITH THE OFFICE OF WAR INFORMATION
AND OTHER GOVERNMENT AGENCIES

*Presents the Biggest Daytime
Radio Program on the Air*

“Your Home Front Reporter” OVER 118 CBS STATIONS

25 Minutes Daily...Monday through Friday

at 4 p.m. EWT...3 p.m. CWT...2 p.m. MWT...1 p.m. PWT

Featuring
**FLETCHER
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Noted commentator...
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DAVID BROEKMAN'S
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One of radio's best-
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A RADIO PROGRAM OF
VITAL IMPORTANCE TO

- The Nation
- Every Manufacturer
- Every Retailer

Here's Why: It is a program dedicated to Victory... through better public understanding of rationing and regulation... through higher morale on the home front.

It will explain why rationing will help win the war... why many products not rationed are often scarce... why wartime changes in package and even product are necessary.

It will give Mrs. America appreciation of the tough job manufacturers and retailers have today in keeping her daily needs supplied.

It will bring from Washington news of all rulings affecting her family's life, with practical suggestions on how to make the best of it... how to help bring V-day nearer.

MODERN PACKAGING

JUNE 1943

VOLUME 16

NUMBER 10



Para-Packs...

OFFICIAL SIGNAL CORPS PHOTOS

1. Can interior packing for units dropped by parachute be laboratory tested?

The "bail-out" signal is given. Air-borne troops leap into action. Out of the sky the paratroopers glide to earth behind enemy lines. Plane landings in such cases are impossible or impractical. Out of the sky, simultaneously, must come smaller package-carrying parachutes bearing weapons, provisions and necessary equipment. Split-second timing determines the success or failure of these daring raiders and fighters. They must be able to retrieve their equipment promptly, to identify each container immediately and to prepare its contents for instant use.

To aid these heroic fighters on their dangerous missions, the Materiel Center of the Army Air Force at Wright Field has planned the most efficient aerial units. In combat areas where paratroops are being landed these units drop guns, ammunition and other essentials for the troops to operate. Other types lower food, fuel, water, clothing, photographic film, medicine and other items to persons in areas where an airplane cannot land or where terrain is temporarily inaccessible for rescue purposes.

In order to make the lowering of this variety of objects safe and effective, a number of delivery units of different sizes and construction have been developed. The unit usually consists of the item or items to be lowered, suitably enclosed in a container or sling which is lowered to the ground by parachute. Some of these units are constructed of fibre-

board; others, of canvas reinforced with webbing. Still others are merely of webbing in the form of a sling. A recently standardized delivery container is of cotton seine netting capable of holding boxes of considerable size.

The parachute to which the container is attached has a 24-ft. canopy, capable of sustaining a load of 300 lbs. In the case of very small objects, however, such as photographic film, a smaller canopy is used. In some instances, the units are dropped from the airplane through the door; in others, they are attached to racks by means of bomb shackles on the bottom of the fuselage. In the latter case, release is usually accomplished electrically from within the plane and the packages are dropped either singly, in groups, or in salvo. A static line attached to the apex of the canopy opens the parachute pack and draws the parachute canopy out into the wind.

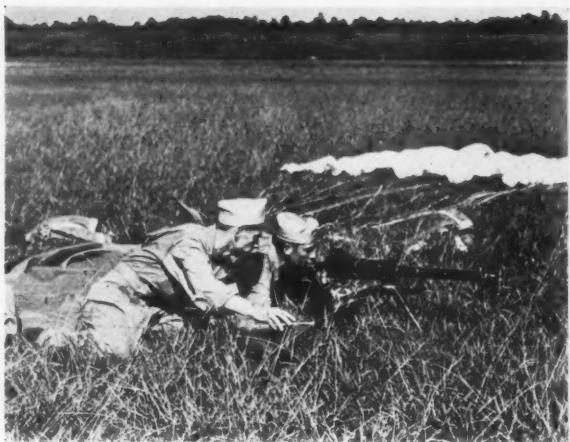
The container used for carrying weapons for paratroopers is a canvas roll, felt lined and reinforced with webbing. Ammunition is packed in a wooden box suspended from the parachute in a sling. There are two types of liquid containers. One is a metal milk can in a canvas sack with webbing sling; the other, a liquid-holding bag, three of which are carried in a cardboard box inclosed in a canvas container.

These various types of aerial delivery units in use over a period of years, first instrumental in taking relief to persons



2

2. *Aerial delivery units, consisting of a container suitably enclosed in a canvas sling, may be fastened under wing on bomb rack. Static line opens the parachute.* 3. *A few minutes after bailing out, paratroops can locate parachute-dropped equipment and are ready for action.* 4. *Aerial delivery container of seine netting capable of sustaining 300 lb. loads.* 5. *Milk can unit in canvas sling.*



3

in flooded or marooned areas and lowering photographs and films to Army headquarters, are now a modus operandi for sending the war behind enemy lines with paratroops.

One of the important considerations from a packaging standpoint, of course, is the method of interior packing, inside the delivery units, to absorb the shock of a container hitting the ground and being dragged until the parachute is retrieved. If the contents of the container are damaged so that they can't be used, it might just as well not have been delivered.

Considerable experiment has been done to determine the types of interior packing that should be used for various kinds of goods delivered aerially. Clothing, for example, does not need the same protection as is required for ammunition or medical supplies in which may be included ampoules and other delicate glass containers.

Many tests have been made by actual parachute drops from planes. Equipment which has been found to require greater shock protection has been provided with a greater amount of interior packaging. This may be done in a number of ways.

The use of flat sheets of corrugated board as interior lining, pads or cushions is probably the least expensive method and most efficient for the widest variety of applications. Such materials can be cut and scored in any form required and be produced in strips 5 ft. wide at the rate of 300 linear feet per minute.

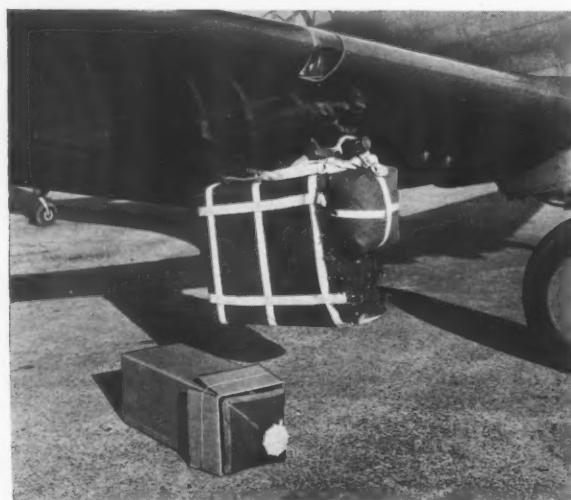
Crepe paper has been used effectively as a shock absorber. In test drops with paper parachutes mentioned later in this article, glass was protected in this manner. Bottles, along with cans and cartons of food, were carefully packed in crepe paper, then placed in a canvas duffel bag. The duffel bag and its contents were then placed in a corrugated carton with more crepe paper protection. This package, weighing 25 lbs., was dropped three times by paper parachute, once at 600 ft., again at 800 ft. and again at 1,000 ft. at a speed of the average civilian plane. After the third drop, the glass and other containers, when retrieved, were reported in perfect condition.

Cellulose wadding is an excellent shock-absorbing material for delicate materials, such as precision instruments, medicines and drugs, but is somewhat expensive for application where other materials would do the trick as well. Blood plasma packages with inner protection of cellulose wadding, dropped by parachute, land in perfect condition.

Many inventors have developed special kinds of pads of



4



5

shredded and other materials for absorbing shock. However, the high cost of producing these and limited mechanical facilities for fabricating them prohibit large-scale use. Eexcelsior has also been found successful in some instances.

So far there is no list of military specifications giving the quantity or kinds of shock-absorbing materials for packages destined for aerial delivery by parachute, nor have laboratory test methods been established. Manufacturers of such materials, however, believe that such specifications and tests could be worked out. The theory is something like this. In a series of actual field tests with units attached to parachutes, a ratio could be established between the force of a free drop in a laboratory drop test and the force of a parachute drop at given plane speeds and against given wind currents. In other words, a package dropped by parachute, drifting through space at a given wind velocity from a plane going so many miles an hour, would by the law of gravity eventually reach a constant falling speed and bump the ground with a given degree of force. The severity of such a landing shock would be the same, whether the package was dropped by chute at 500 ft., at 1,000 ft. or more. The severity of this shock could then be translated to a specified free drop of a certain height in a laboratory test.

The packer of goods to be delivered by parachute or the supplier of shock-absorbing packaging materials would then have the assurance that if their method of protective packaging survived successfully the laboratory drop tests, their package would be undamaged when dropped by parachute. The package would also be sufficiently protected to withstand all other shocks encountered in descent, because the force with which a package hits the ground is estimated to be greater than the shock it receives while being dragged before the parachute deflates or in the air when it takes the jolt of the parachute opening.

In daytime action, bright vari-colored parachutes have been useful for differentiating among several varieties of supplies, but for night actions an aerial delivery identification light has been developed—a small, glowing, colored light attached to the package leads the soldier to the desired equipment. Designed almost entirely of plastics, this indicator lamp makes use of colored transparent plastics lens caps (red, yellow, blue, green and clear) to mark the different containers. The identification light, which resembles a flashlight in appearance, is lashed to the top part of the container. A cord is fastened to a fibre insulator set in the external switch of the flashlight and to a shroud line of the container parachute. When the parachute is opened and released from the airplane, the shroud line naturally pulls the cord, moves the fibre insulator from between the switch contacts and thus automatically turns on the light of the indicator lamps. When the package is located by the paratrooper, the light may be turned off by once again inserting the fibre insulator between the lamp switch contacts.

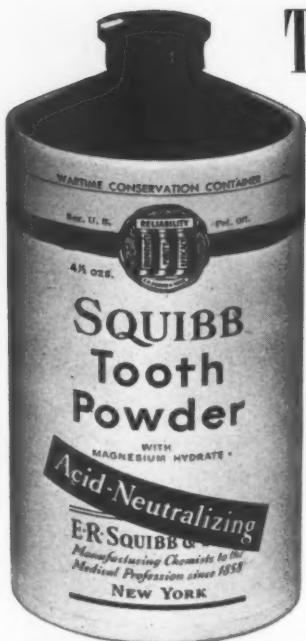
The Engineering Division of the Air Forces at Wright Field worked in conjunction with Standard Aircraft Products, Inc., in the development of the identification lamp on aerial delivery packages. The light was engineered and designed in plastics in order to obtain a variety of colors, save weight, obtain a high volume of output, withstand all types of weather and climatic conditions as well as to conserve metal. Black cellulose acetate butyrate was chosen for the body halves, end cap and end plug, and the same thermoplastic in five colors is used for the lens caps.

Another interesting development in the field of aerial delivery packages is a paper parachute. This is not yet used by the Army, but has been tested (*Continued on page 120*)



6. In daytime, vari-colored parachutes have been useful in differentiating supplies, but for night actions an aerial identification light has been attached to the package to lead the soldier to the desired equipment. 7. Packages like this weighing 25 lbs. and containing glass containers were dropped three times by paper chutes without breakage.

TYPES OF PAPER DISPENSERS



for

Powders

One of the most frequently asked questions today in the civilian packaging field is: Where can I get a paper dispenser container for powders to take the place of metal cans?

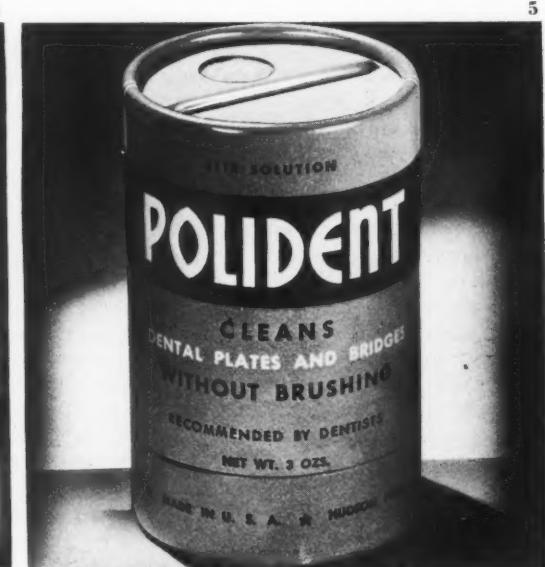
More than a year has passed since metal was prohibited for such purposes and practically all existing stocks of metal sifter containers have been used up. In their place on drug and cosmetic counters are scores of wartime paper containers for powders which have appeared in recent months.

They include almost every possible type of construction and dispensing feature. The paper container industry, in this endeavor, has risen nobly to the task of providing these emergency packages. One may find on retail counters of the land today cylindrical containers, square containers, round containers. Even folding carton makers are producing containers for powders with dispensing features. There are shaker tops with every kind of opening and swivel devices for opening and closing. Special coatings and adhesives help to make the containers moistureproof and smudgeproof.

The greatest difficulty, however, is production capacity on existing machinery to supply the ever increasing demand for such containers. Many of the companies who make them have all the orders they can possibly handle and must turn away business. Others are scarcely able to supply the de-



1. Squibb container has brown plastic top and pour cap.
2. Four dispensing features. 3, 4, and 5. Three types of cylindrical containers with similar sifter devices. Easy to manipulate by means of embossed slide on top disc.



mands of more than one user, if his requirements go into the millions. Some users are supplementing their needs by using more than one type of container for the same product.

On these pages are short descriptions of many of these wartime adaptations which show the wide variety of possibilities and how almost any siftproof container of paper can be converted into a shaker type of package.

E. R. Squibb & Sons tooth powder is now in a cylindrical paperboard container instead of the elliptical metal can of pre-war days. The same colors, beige and brown, have been retained for the design and a brown plastic top with a pour cap was selected. At the same time Squibb put its Carnation talcum powder in a round paper container with swivel sifter top.

Detail of four different dispensing features of containers among the winners of the All-America Package Competition are shown in a photo below the Squibb package. The largest one used for Listerine tooth powder has either a wood or plastic knob which may be turned to right or left to open or close the dispenser aperture. Next to it is a notched disc used on smaller containers for the same product. In the left-hand corner is a plastic dispenser top, shown open. This is used for Dr. Lyon's tooth powder. To close the opening, the plastic top is pushed down so the hole is covered. The fourth closure is similar to the notched one and turns around to cover the opening.

Polident and Kolyinos containers have similar swivel type dispensing features, although the construction of the containers themselves is somewhat different. The swivel disc is easy to manipulate by means of the embossed feature which provides a place for finger gripping when turning the disc back and forth. These packages have been featured widely in advertising by the respective companies to familiarize the public with the new wartime packages.

Another variation of the cylindrical style is used by the Como-Cleen Co. of Baltimore, Md. for a comb cleaning compound. The dispensing feature is an opening on the

6. Opening is under ring which moves around wall of container. 7. Folding carton with sifter holes punched in side. 8. Square sifter with slide over top opening. 9. Cone-shaped shakers adopted for Cashmere Bouquet.

8





10 side of the container. A ring moves around the entire container, fitted snugly as part of the outer wall. Moved in one direction this reveals an opening; turned in the other, the opening is covered.

Colgate-Palmolive-Peet Co. introduced Colgate tooth-powder in a cone-shaped paper container, another All-America winner, last fall. Today this company is using variations of this container for at least six of the company's products and its production lines have been completely converted for the handling of these paper containers. One of the recent adaptations has been three sizes for Cashmere Bouquet talcum powder—2 oz., 4 oz. and 7 oz. These containers are convolute wound of three plies of board for the two smaller sizes and of four plies for the largest one. Glues used in the construction give added protection to the product. The printed tight wrap is applied when the container has been partially formed. This label-wrap is made of an alkali resistant paper which is coated with protective varnish to make it endure under practical use. Several improvements have been made in the package since it was first adopted. The finish has been formed in a manner to provide closer tolerance between cap and container, so that the cap fits better. The cap is now made completely of dyed board, which makes a neater looking job and saves the time of coloring the cap. The lettering and decoration have been changed in keeping with the cone shape of the new container, but the same color scheme has been retained as was formerly used on the metal cans. Colgate is especially pleased with the eye appeal of the new package. They feel that when placed on a shelf or counter, it has excellent display value from all angles due to the tapering shape of the cones when placed in groups or when grouped with other types of containers.

The inspiration for this container was the core of a ball of string. The supplier formerly made such cones on which



11

10. Aero Club container is combination set-up box with folding carton interior. 11. Folding carton with inner heat-sealing liner for Dentu-Grip prevents sifting. Neck is clamped to carton through liner. Screw cap is plastic. 12 and 13. Similar cartons used for Pebeco to supplement paper cylindrical container. Small size has paper slide over opening instead of neck and screw cap.

12



13

14. Some of these containers have caps which fit over a formed finish to cover the perforated opening. Others have swivel type lid or openings on the side. They are used in several sizes.



string was wound. When the war came along, someone had the bright idea of inserting a bottom disc and finishing off the top to turn this core into a container. Now this package manufacturer is turning out millions of these cone-shaped containers.

V. Vivaudou Inc. is using metal replacement packages for Mavis and Djer-Kiss talcum and for Mavis Talc for Men. The new Mavis package is virtually the same square shape as the company's former metal package. It is of triple shell construction for strength and durability with a slide top sifter. All sizes of Mavis talc are now in this new container done in the same red and gold coloring. The men's talc is in a similar package, but Djer-Kiss is in a cylindrical paperboard container with turning dispenser top. The same all-over green and white design is retained to continue brand identity.

Other types of containers have been adopted for Ward's Baby Powder, Luzier's Bath Salts, Wood Spice dusting powder, Mercury Foot Powder and Household Brand Cinnamon. These containers are provided with a wide variety of dispensing devices. Some have caps which fit over a

formed finish to cover the perforated openings in the top. Others have a swivel type of lid which can be moved back and forth to reveal the opening. Another type has the opening in the side, so that when the top turns around, the product may be shaken through the side. These containers are made in miniature sizes also for certain lines of products.

Sifter containers of a slightly different construction are those being used by Varva for "Follow Me" talcum powder, Dr. Scholl's foot powder and several other products. An interesting use of a dry powder container is for Borden's grated Italian style cheese. This container has three holes in the top which may be opened by turning the disc top.

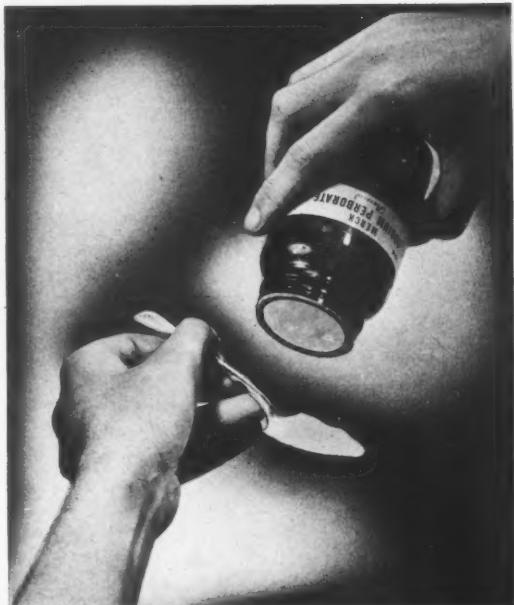
American Products Co. of Cincinnati have been among the leaders in adopting a folding carton for their "Dream Girl" talcum powder. The carton is the identical size as the former square powder can without the dispenser top and cap. Instead, the powder is dispensed through several holes which the user punches through after purchasing the product.

A new folding carton dispenser will soon be on the market for Pebecco tooth powder to (Continued on page 120)

15. Sifters used for Dr. Scholl's foot powder and "Follow Me" talc are other variations of the many types on the market today. An interesting adaptation is the paper container for Borden's grated cheese.



Design Histories



Sodium perborate

When the shortage of tin necessitated that Merck & Co., Inc., convert their traditional "pour-top" tin container for Sodium Perborate Flavored, the Merck Package Development Department devised a glass container which in some respects is superior to the dispenser it replaced.

Across the opening of the amber colored, wide-mouth bottle, is a new pour-out inner seal, which is applied without being touched by human hands. An ingenious machine covers the lip of each bottle with adhesive as it passes by on a belt. The seal, already enclosed within the metal cap, is then applied and the bottle labeled by machine. When the cap is removed, the inner seal remains, revealing a $\frac{3}{16}$ -in. hole through which the sodium perborate may be dispensed without waste.

In line with Merck's famous "Amberlight" Prescription Bottle Set, this new container has a distinctly ethical appearance. It has been reported that the sodium perborate will remain free-flowing much longer than in the tin. The Merck company finds that the new package has met with customer acceptance and that the bottle with its special seal and screw-on cap is serving as a successful replacement for the former small-mouth tin can.

Credit: Closures, Ferdinand Gutmann & Co., Brooklyn, N. Y. Bottles, Owens-Illinois Glass Co., Toledo.

Gas mask bag

Gas masks must be in perfect condition when they are brought out to be worn by soldiers or civilians in gas attacks. To the person who has to wear a gas mask to protect his life, a damaged mask is just about as good as no mask at all. No matter what care the manufacturer of the mask has used in its making, if that mask cannot reach the user in the best of condition, the result is about the same as if the mask had not been made.

Dust and moisture are two great enemies of materials and products during the time of storage and of shipment. They begin to destroy anything with which they come in contact.

The U. S. Army sees to it that neither dust nor moisture can get at their gas masks. Army gas masks are protected from both dust and moisture by an envelope of transparent cellophane. This envelope or bag was developed by the Chemical Warfare Service. The bags measure 17 in. by $13\frac{1}{2}$ in. and they completely enclose the gas mask in a dust-and-moisture-proof container. In addition, the bags have a further advantage—that of excluding air. Not only must the unit be kept clean, but if air can be excluded, the rubber parts of the gas mask have a better chance of being preserved. Air deteriorates rubber. The transparent bags also permit a clear view of the contents, which is helpful in identifying the product.

Bags are formed from a double sheet, .0014 in. thick with heat-sealed or cemented edges. The open end is crimped sealed to ensure a tight closing. When the double edge is to be sealed, the inner and outer plies are tacked together and permanently fastened by continuous or intermittent heat sealing.



Men's toiletries

When the gift shopper goes up to the counter and buys a bottle of Aero Club after-shave lotion or a men's toiletry set, as likely as not the clerk will want to know whether the gift is for a man in the Army, Air Corps, Marines or the Navy. It won't be idle curiosity on the part of the clerk. Aero Club has insignias for each of these armed services for use on Aero packages and the clerk wants to affix the correct insignia to the gift. The seals simulate real insignia and are placed at the corners of the boxes against a strip of red, white and blue ribbon.

Boxes for shaving cream, after-shave lotion and for the set of three items are set up. They are tight-wrapped with a paper which simulates wood. This sturdy-appearing paper gives the containers a masculine air. Bases for the after-shave lotion and the shaving cream boxes are wrapped in a blue, imitation leatherette. The paper is dark and contrasts well with the light, wood-grain tops of the boxes.

The bottle for the after-shave lotion is blue with the Aero Club design of airplanes and conventionalized clouds in white. The design is imprinted directly on the bottle. A clear glass jar for the shaving cream has a rap-around label and a metal, lug type cap. Talcum powder for men comes in a tight-wrapped, rectangular, set-up box which has an inner carton that actually holds the powder. Powder is dispensed through perforations in the inner carton. The paper both for the label on the shaving cream jar and the talcum powder box is alcohol-, grease- and water-proof.

Credit: Insignia seals, Stanley Mfg. Co., Dayton. Jar, Hazel-Atlas Glass Co. Closures, Armstrong Cork Co., Lancaster, Pa. Bottle, Maryland Glass Corp., Baltimore.



Motor oil

A new container for oils is being used by Shell Oil Co., Inc. The company completed a series of tests to determine how the container would stand up under the rough handling to which motor oil cans are usually subjected. The new cans, having successfully passed these tests, are being introduced on a small scale in 11 markets throughout the country.

The container is made up entirely of non-critical materials, including fibre, parchment paper, adhesives, etc. Since the shortage of metal for such things as motor oil, canners have experimented with different kinds of paper containers for oil products with varying degrees of success. The greatest difficulty has been the inability to adapt present can-filling equipment to non-metal containers. Other types of paper containers have also been found very susceptible to leakage and have been unable to stand up in shipping. Both of these problems have been met by the paper can being used in a number of areas by Shell Oil Co., according to the manufacturers of the can. In addition, problems of devising a satisfactory method for opening the container for use have been overcome. Heretofore, in many containers, cutting or sawing open the package with a sharp instrument has loosened fibres and particles which have been carried into the oil and contaminated it. The closure of the new container may be punched open as cleanly as former metal can tops were opened. The new closure also gives complete pouring freedom. It is announced that the new container will soon be in general use.

Credit: Fibre can made by The Canister Co., Phillipsburg, N. J.



Baked beans

One more solution to the packaging of baked beans, now that the familiar tin can has gone to the front, is represented by this carton of pre-cooked, dehydrated beans and the separate cellophane bag filled with seasoning. Burbank Kitchens, Burbank, Calif., have developed this way of catering to the nation's taste for baked beans and are introducing to the grocery trade their Chuck Wagon Bean Dinner in a paper container.

The carton contains 7 ounces of four types of pre-cooked and dehydrated beans plus the separate bag of seasoning. Quickly prepared foods are popular today, so the carton copy emphasizes the point that the Chuck Wagon Dinner cooks in 15 minutes and that it makes four large servings from a casserole. The carton measures $3\frac{7}{8}$ in. by $5\frac{1}{8}$ in. by $1\frac{3}{8}$ in., so it is small and compact for the housewife to carry and at the same time affords enough surface for the advertiser to use sales messages and illustrations. Printing is done directly on the carton in three colors—red, brown and yellow—and incorporated into the carton design is a novel means of leading the customer's eye to the basic recipe on the side panel by a white arrow across the top. A casserole of Chuck Wagon Dinner ready to serve is illustrated with fine appetite appeal in natural color. The back panel features three alternate recipes printed on white panels representing recipe filing cards. The carton is varnished for resistance to dust and fingermarks as well as good appearance. The company finds that the carton has an appetite-appealing quality highly competitive with the lithographed labels of pre-war canned beans.

Credit: Carton, Standard Paper Box Co., Los Angeles. Cellophane bag, Shellmar Products Co., Mt. Vernon, Ohio.

Design Histories

Ribbon reel

Despite a seller's market and a greater demand for merchandise than it can supply, Freyberg Bros.-Strauss has launched a newly redesigned package. This ingeniously constructed package not only saves paper, board and adhesives, but it is decidedly more attractive than the old time bolt for ribbons.

The basis of the new reel is a folding carton, which is shipped flat and is a space-saver both in transit and storage. After the carton is erected, the ribbon is wound directly upon it, layer on layer, without an intervening layer of paper, which was used on the traditional spools formerly used to keep the ribbon from slipping off and incidentally as a background display, when clerks showed the ribbon. After the ribbon is wound on the new reel, which looks like a long bobbin, it is fastened by a bit of pressure-sensitive tape. Top and bottom ends of the reel are inserted into die-cut apertures of the carton, forming an integral part of the package, and these ends also serve to carry the descriptive matter. No further wrapping material is necessary, as the top and bottom labels protrude beyond the carton and keep the ribbon from slipping off.

When stacked on counters it shows more of the ribbon at a glance and facilitates selection. It eliminates the necessity of unwinding a length of the ribbon so that the customer may view the pattern and this prevents wear and tear on the merchandise. The new package will not roll off the counter, preventing soil and damage to a product which must have eye appeal. The package also lends itself to easy stacking and display.

Credit: Folding carton, Modern Folding Carton Corp., Brooklyn. Top and bottom labels, Jos. Zuckerman, Inc., New York City.



1. Powdered coffee in tablet form is inserted in packets, then run through crushing machine. 2. Packets weigh 6 grams when filled in comparison with 25 grams for the same amount of normal grind coffee, without counting container weight. 3. Packets are easy to handle and coffee simple to prepare.



Coffee in foil for soldiers

A method of packaging soluble coffee for Ration K in aluminum foil will be equally adaptable for many other types of concentrated and powdered foods or medicinal tablets when aluminum foil once again becomes available for civilian use after the war.

Coffee is going to the front in snug, feather-weight packages each containing sufficient coffee concentrate for two generous cups. Standard equipment in Ration K, these packages are made of aluminum foil one thousandth of an inch in thickness and coated on one side with a thin film of a thermal plastic for hermetically heat-sealing all four sides. The other side of the foil is laminated with a thin layer of cellulose acetate.

This type of packet is said to be impervious to light and moisture and is resistant to the effects of either the intense heat of the tropics or the extreme cold of the arctics. The aluminum foil gives the packet ample strength and effectively shuts out the light, while the plastic coatings, both inside and out, serve their respective purpose of heat-sealing the

packet, strengthening and protecting it against handling.

Besides protecting the powdered coffee from harmful conditions of exposure, this type of container saves weight and valuable packing space. The powdered coffee in a single package weighs barely five grams and the filled package weighs only six grams. An equivalent amount of coffee of a normal grind weighs 25 grams, without container weight.

The idea of a foil package is not new. Miles Laboratories, Elkart, Ind., was marketing individual Alka-Seltzer tablets in similar packets before the war. This same company is responsible for filling and sealing of these coffee packets.

The coffee is furnished to Miles Laboratories in powdered form and then converted by them into tablets. These tablets are inserted in the foil packages and are run through a crushing machine which reduces the tablets to powder.

Credit: Foil, Aluminum Co. of America, Pittsburgh. Fabricated by The Dobeckmun Co., Cleveland, Ohio.



How the Army and Navy packs for protection

Through the courtesy and cooperation of officials responsible for the Army, Navy, Marine Corps and Coast Guard exhibit at the Packaging Exposition, Modern Packaging is privileged to present herewith additional detail on various package units noted at the show. This material supplements general descriptions in our May issue for the benefit of our many readers who are directly concerned with the many phases of today's military and export shipments.

When men at sea are forced to abandon ship for the hazards of a life-raft, much of their chance of survival depends upon the provisions stored and ready for their use.

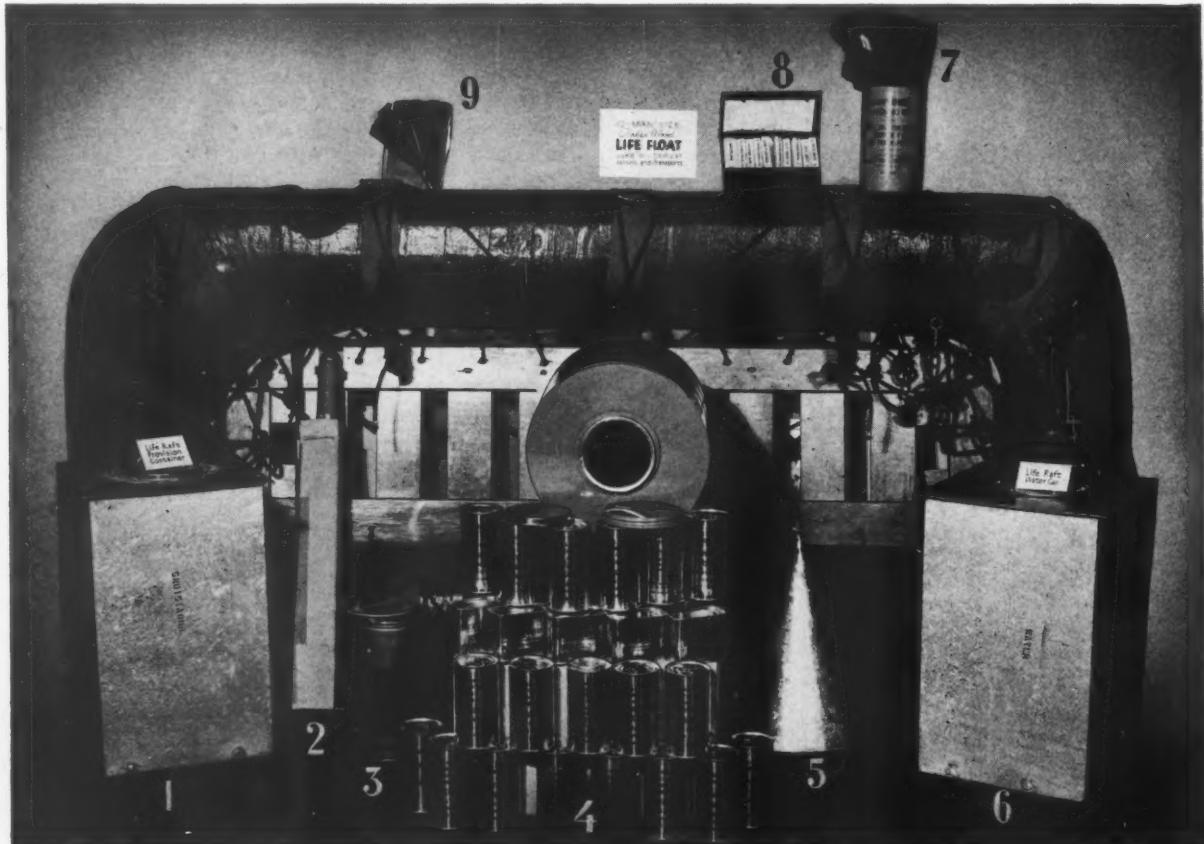
The Navy has developed not only easily stored and readily used life rafts, but has provided well-designed containers for the food and other provisions which must suffice to keep survivors alive for as long a time as possible. The newest Abandon Ship Ration accepted by the Navy is shown here, together with its specially developed canister. Every life float, life raft, life boat and landing barge are provided with

these units in addition to several other important items, some of which are described in the following.

The device shown in the accompanying photograph is a 10-man life float with which smaller ships and some airplanes are equipped. Larger craft carry a 20-man life raft more extensively equipped. In the Abandon Ship Ration canister is a collection of food items sufficient to sustain 10 men for a period of three days on a scientifically balanced diet.

The various items are all packed in hermetically sealed tin cans, each provided with a key-opening device. The cans are nested within a metal container about the size and shape of the familiar large-size thermos jug. This canister has been especially developed, from manufacturers' stock forms. The closure consists of a screw cap with a welded turning bar, which may also be used as a pry to open the other cans and the friction plug cover which is applied to the canister as an additional protection against salt water. The screw cap is tightened against a rubber ring. The external finish of the

Navy life raft and packaged equipment it carries. (1). Provision container for a 20-man raft in which are placed cans of food (4). Behind these food cans is a round provision container of a size used on a 10-man life float. (2). An automatic floating signal light. (3). Canister for distress flares. (5). Can of storm oil. (6). Water can. (7). Emergency fishing kit. (8). First-aid kit. (9). Signal mirror in laminated kraft and foil.



Rations are packed for every climate of the earth. (1). Proper diet for soldiers on maneuvers at high altitudes. (2). Rations of rice and dried vegetables packed in the States for General Chiang's men. (3). Compact, moistureproof units for jungle troops.



outer container is a special camouflage color meeting Navy specifications.

The cans are shipped from the factory in a wire-bound container and are filled at the Naval Base at the time of requisition. Cans and containers are inspected frequently for salt water corrosion and rusting. Grooves are provided on the side of the outer container for two purposes—structural strength and as a rest for a lanyard to tie the container to the raft so that it cannot drift away if dropped into the sea. Drinking water is carried in a different container, which is not a component part of the ration unit.

The various food items have been developed to require little water either for preparation or for digestion. In fact, they are developed to discourage normal bodily elimination, particularly of water, and thus reduce the normal consumption of water by survivors.

The per can food ration consists of 12 oz. of luncheon meat, 8 oz. of biscuits and 14 oz. of malted milk tablets. This is planned as sufficient for 10 men for three days. The ration is divided as follows: Luncheon meat—4 oz. per man daily, giving 315 calories; biscuits—5 oz. (9 biscuits) per man daily, giving 610 calories; malted milk tablets—1 oz. (9 tablets) per man daily, giving 116 calories.

A part of a raft's normal equipment also includes an automatic floating electric light, a canister of distress flares, the provision container used on the 20-man raft, the water container for the 20-man raft, a storm-oil can, a steel signalling mirror, a first-aid kit and emergency fishing equipment, one of the latest items provided for the welfare of disaster survivors.

Because of the more important uses for metal and tin normally required for packaging shortening, the Navy has followed civilian practice in the packing of this product for long-range shipment. Both convenience and availability of materials were considered in the development of this package. Eight pounds were selected as the package unit because Navy cooks use that quantity as the measurement for most of their recipes, it is said.

A specially sealed cellophane bag is the inner liner for this package. The cellophane was developed especially to meet the needs of the Navy for its shortening. A variation of MSAT 450 cellophane provides a complete barrier between contents and outside influences. To prevent the usual grease crawl through the seal, a special sealing head was developed with five heating bars. The seal is flat and extreme care is taken to see that the cellophane at the seal is kept completely dry and free from the shortening, for any trace of shortening would prevent complete sealing.

The shortening is placed inside a V-liner within a carton to protect the bag from the rivets which seal the carton. A tuck-and-tongue closure is used at the top and a tuck bottom is provided. This procedure is followed, it was said, because it is not possible to glue greaseproof board. The board employed is 60-point greaseproof. The whole package completed will withstand 12,000 lbs. pressure. A sleeve is placed around each unit to give additional columnar support and to protect the shortening even when it is stored at the bottom of a heavy pile of foodstuffs. Six shortening package units are packed to the case, which weighs 48 lbs. filled and can be handled by one man. This is in keeping with the Navy's practice of maintaining this weight for its individual food packages. Seventy pounds is the maximum weight permitted for any package of food, and 50 lbs. is the average weight.

One of the packaging developments of World War II and made especially for the Navy is a new bag containing enriched flour. The flour is packed in 50-lb. units in two types of bags. One has an outside wall of paper with an inside surface of Osnaburg. The other has cloth on the outside (Osnaburg) and the two sheets of paper on the inside. The structural strength of the two constructions is identical. The paper is laminated to the cloth with an asphaltic compound, which serves as a waterproofing medium.

The bag with the paper on the outside surface has an added advantage in that the paper provides a barrier against mildew and other micro-organisms which attack the cloth. The

quantity of asphalt used on this bag does not furnish a barrier to mildew or to infestation. Each of these bags is sealed with a standard form of stitching, combined with a wax dip.

Flour for the Navy is also packed in a carton. This is a composite package consisting of a cotton bag which is filled and sewn, then placed in a corrugated inner package. The corrugated inner package is wrapped in a moistureproof wrapper made of X-crepe which by actual test is capable of withstanding submersion. The wrapped bundle is then inserted into a Style V-1 or V-2 solid fibre shipping case, which is, in turn, finished with a sleeve and a one-strap metal binding. This type of package lends itself to mechanized production in the flour mill equal to mill stream for speed with a minimum amount of labor involved. It also lends itself to palettizing in warehouses. The materials from which it is made are impervious to moisture, water or infestation and will withstand huge crushing loads. By direct comparison with bags exhibited at the packaging show, the cubical volume has been reduced from 54 cu. in. to the pound, to 38 cu. in. to the pound. Most Naval units which have handled this package under actual conditions of export handling are in concurrence that this package is a definite improvement over all packages so far experimented with. The package was originally designed for the use of expeditionary forces and for shipment to unorganized stations where men must be fed.

Prunes and apricots for the Navy are now being packed in weatherproof and insect-resistant packages. The dried fruits are packed on regular high-speed production lines in wax laminated glassine inner bags which are formed around the fruit and interleaved with the shell of the package.

A waterproof, asphalt-laminated wrapper is provided to give adequate protection against weather conditions or submersion. The wrapper will stop drilling insects and is odor-repellant to some other insects. The packages are gathered 12 to a unit and two units to a case made of V-2 board. The V-board has been impregnated with an asphalt composition.

A simple maneuver diverging only slightly from the cus-

tomary packing of spaghetti has resulted in the saving of 33 1/3 per cent of the customary bulk space required for packing this product. Samples of spaghetti packs exhibited at the Military Exhibit of the AMA Show revealed how the Navy was taking advantage of this development. The maneuver consists of simply knocking off the "hooks" which are usually found on the ends of the individual strands of spaghetti.

These "hooks" require additional packing space, yet amount to little in the actual weight of the package. They are knocked off by butting handfuls of the spaghetti against the side of a box or table-edge. The pieces knocked off are gathered and re-used.

The spaghetti is packed in glassine laminated bags inside a kraft bag in 20-lb. units. The bags are packaged in corrugated board, subsequently wrapped in an asphalt laminated kraft paper and then packed in a No. 2 style wooden box.

An Indian philosopher once said: "Darn nice all men not think alike—everyone want my squaw." He might have said the same thing about appetites and menu preferences which, in these days of rationing, would present most difficult problems, if all men preferred the same food.

Consider, for instance, the great dissimilarity of diet requirements—and preferences—between the men of the Chinese Army and those of the Army of the United States. Exhibited side by side at the show were rations for the Chinese Army and those of the A.E.F.

The Chinese Army field ration, carefully observing the Chinese diet requirements, consists of a cylindrical packet of compressed puffed rice cakes, a package of Pi-Tan, five cakes of dried cabbage, two packets of dried green peas, a package of powdered bean cakes and two bags of dried bread.

Altogether this forms a unit weighing only a few pounds, is readily stowed in a soldier's pockets, but is enough to take care of a man for several days. There are seven cakes of the compressed puffed rice weighing a total of about 1/2 lb. These are biscuit-shaped cakes wrapped in a transparent



Among the finest examples of packaging science are the various units packed for the Army Medical Corps, including every kind of medication, first-aid and other emergency equipment.

Flour for the Navy in laminated cotton and paper bags—moisture resistant and insect-proof. Lard for the Navy is being shipped in laminated cellophane bags-in-cartons.



thermoplastic film over which is wrapped a layer of tough kraft paper. The package of Pi-Tan—consisting of eggs treated with calcium dehydrate—is a mainstay of the Chinese diet. The dried cabbage comes in five small cakes, each of which provides sufficient for a satisfactory portion. Small bags serve to carry the dried green peas and the powdered bean cakes—similar in form and packing to the rice cakes. Dried bread—consisting of a small handful of crackers, resembling croutons—is packed in fabric bags, each tied with a string. Two such bags form a component part of the Chinese field ration.

U. S. Army Rations shown included a Mountain Ration, designed for troops serving at high altitudes, highly concentrated and developed for its nutrient value when living and working in rarified atmosphere and lowered air-pressure. Such food for a squad of men for a full day—three meals—is compactly nested into a foot-square inner box of rigid plastic sheeting. The whole is wrapped in a laminated kraft cover which is wax-dipped to provide the utmost in complete protection. Included in the packet is the following collection of necessities for the squad's comfort and existence: granulated sugar, gum, candy, canned butter, beverage powder (citrus), dehydrated cheddar cheese, salt, also Field Ration D chocolate bars, graham crackers, tea, powdered whole milk, coffee concentrate, cigarettes, malted cereal, sausage meat and a dehydrated fruit bar. To complete the list is added a packet of toilet paper.

A printed menu is inserted into each packet so that the contents may be properly allocated to give variety from meal to meal. For breakfast, the following is suggested: Peaches (dried bar), cereal and milk (powdered, with a little water added) biscuits and butter, and coffee. For dinner, peaches, cheese, biscuits, a bar of chocolate, lemonade (powdered) and hard candy. For supper, soup, canned sausage meat (or luncheon meat as may be provided) biscuits and butter, and some hard candy.

Also shown was the U. S. Army Jungle Ration, designed to provide the utmost for a group of men under the trying conditions of a hot moist climate. Salt tablets are included along with candy, pre-cooked cereals, raisins, type C biscuits, gum, beverage powder, cigarettes and canned meats. The addition of candy, gum and cigarettes has puzzled a great many observers, Army officers said, but explained this apparent super-solicitude by pointing out that candy, with its ready sugar is one of the best ways of providing quick-energy for the men; gum aids in averting thirst and cigarettes provide a pick-up for the men as nothing else can. Recent news releases from the front tell of another advantage of the gum, candy and cigarettes—probably not originally contemplated by the Quartermaster Corps. These items provide an international medium of exchange that has made it possible for American troops to acquire many things in the way of provender and assistance from African natives while on maneuvers in various areas.

Improvements in the packaging of medical supplies is one of the important developments of World War II. One of the developments is a new snake bite kit which is already credited with saving lives of hundreds of men. In spite of the extreme care exercised, snake-bite is an ever-present hazard, and science has come to the fore to help guard against disastrous results.

The new kit represents many changes over the old one. The new kit, packed in a plastic container, consists of a plastic venom extractor pump, a tourniquet, lancet, adhesive compresses, ammonium inhalant and iodine swabs. The venom extractor pump is made entirely of plastic (except for the spring which returns the plunger) and replaces the metal-and-rubber-bulb formerly used. It is more sanitary, and will not deteriorate during storage. It is equipped with two alternative end-pieces—large and small, depending upon the size of the bite—and can be boiled after use. The lancet consists of a small bit of steel with a sharp cutting edge, which is



Mobile hospital equipment for 100 men fits in a case which is only a few feet high.

reversible into its handle, replacing the razor blade previously used.

Every man going into service in snake-infested areas is, of course, trained to use the snake bite kit, and several are provided for every large group of men in an operating unit. While there is little danger, if the kit is used promptly and effectively, many snake-bite victims are overcome when bitten by a reptile. Therefore, the ammonium inhalant is provided. The iodine swab consists of an ampule fitted with a bit of cotton, which, when crushed, releases the tincture of iodine with which to paint the wound.

The Parachutist's Kit is for use when a soldier lands at a point isolated from his outfit and is designed to care for him in event of injury. It consists of immediate First Aid supplies, including a tourniquet, a tube containing morphine tartarate solution and a Carlisle dressing, all packed in a small canvas sack, which is closed by sewing, that may be torn open when needed.

The Jungle First Aid Kit is designed to provide equipment for a squad of men. Supplies are packed in the numbered pockets of a canvas kit which is compactly rolled and tied with tape. The pockets are clearly numbered so that, while the kit may ordinarily be in charge of a trained man from the medical unit, it may, in emergency, be used intelligently by any other member of the party. In the pockets are: 1. Sulfadiazine and adhesive compresses. 2. Sodium chloride and dextrose tablets to make the drinking water palatable—one tablet to a canteen-ful. 3. Halazone, to disinfect the drinking water. 4. Frazer's solution, for athlete's foot. 5. "Skat"—an insect repellent (there are two bottles of this provided). 6. A small Carlisle dressing with a sprinkler-envelope of sulfanilamide. (A Carlisle dressing is a compress about the size of a man's hand to which are fastened four

streamers of tape or bandage material so that the compress may be applied to an arm or body wound and securely tied into place.) 7. Atebrine tablets—a specific against malaria, supplanting quinine—several tablets packed in a plastic tube with a screw top. 8. Aspirin, likewise packed in a screw top, plastic tube. (Two tubes provided.) 9. One-inch adhesive plaster. 10. A metal can (shaker top) of foot powder. 11. Iodine applicators in a wooden box. (Two units provided.)

Two sizes of kits are provided for the Army's Automobile first-aid service. Each is packed in a metal box fitted with a snap-lock metal cover and secured by a sponge-rubber gasket to provide water- and gasproofness. Each carries approximately the same assortment of supplies, the difference being in the quantities provided.

Included in each kit are: 4-in. bandages, 2-in. bandages, 1-in. adhesive compresses (waterproof), iodine swabs, Carlisle dressing, eye-dressing outfit (including a patch and eye ointment), tourniquet, scissors, forceps, a burn injury outfit (including sulfadiazine ointment), ammonia inhalant capsule, sulfanilamide sprinkler envelopes and triangular bandage. Instructions for the use of the various parts and other first aid information is printed on a label pasted into the cover.

Outstanding among the package exhibits of the United States Army Corps of Engineers were machinery parts wrapped to prevent corrosion, which is one of the worst shipping hazards for this kind of material. In the past, much equipment has been sent to the theaters of war and by the time it arrived was so rusted it could not be used at all and might just as well not have been sent. Great progress has been made in the last year in the production of wrapping materials to keep grease and oil, with which the parts have been treated, in and moisture and water, which causes corrosion, out. These new wrapping materials are combined laminations of paper, resins and cellulose acetate. The material is flexible and fits snugly over the parts to form an almost impenetrable barrier to atmospheric conditions.

Machinery parts are wrapped in laminations of paper, foil and cellulose acetate.



Bottling pure gum turpentine

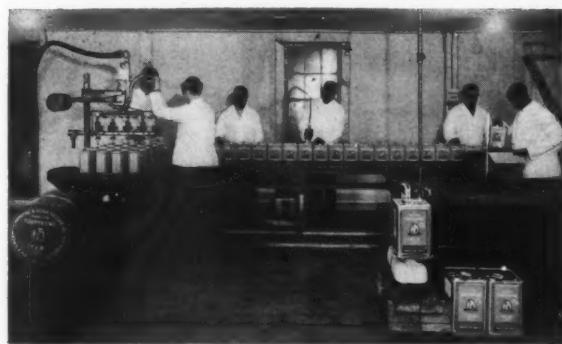
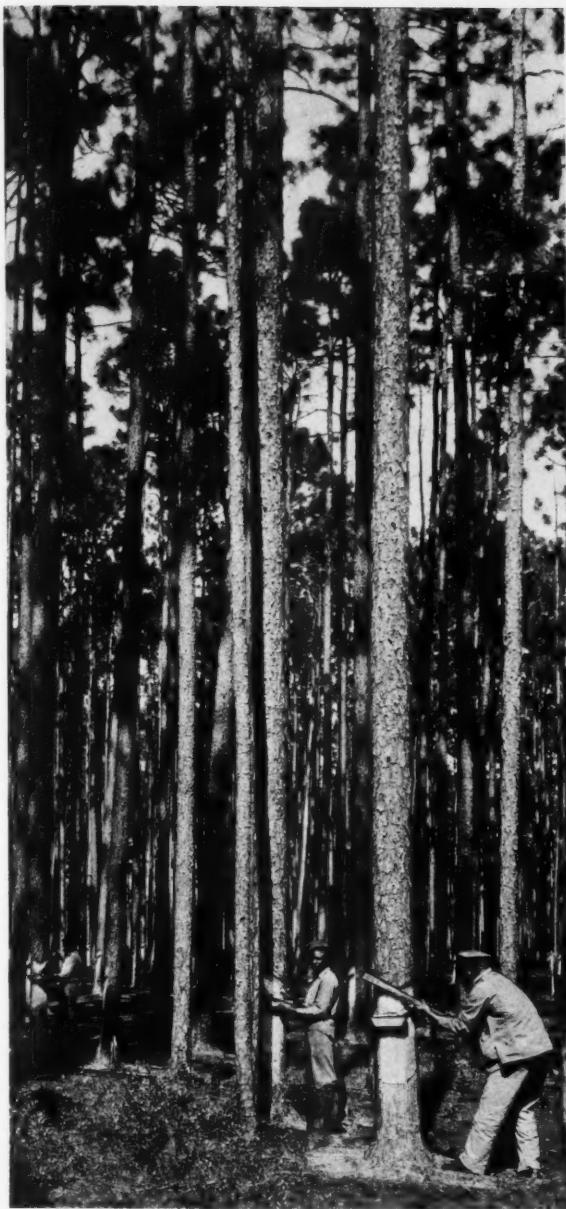
About five years ago, the American Turpentine Farmers Assn. Cooperative launched a program to take gum turpentine out of the "cracker barrel" class and have it distributed in attractive, brand identified containers. The sizes were to range from 6 oz. to 5 gal. At the same time, this association began a national advertising campaign on the merits of AT-FA packaged gum turpentine to acquaint the public with the product and the advantages of looking for package and brand in gum turpentine.

The Turpentine & Rosin Factors, Inc., Savannah, Ga., became one of the association's first licensed packers. This company, a 1942 All-America Package Competition winner, began to build up nation-wide distribution of the product until today it is the largest packer of AT-FA Gum Turpentine. Warehouse stocks are maintained in all the principal distributing areas throughout the country, including San Francisco, Los Angeles and Seattle. A modern automatic packaging plant is operated by Turpentine & Rosin Factors at Savannah, Ga. This plant is devoted exclusively to the packaging of gum turpentine and operates on a full schedule.

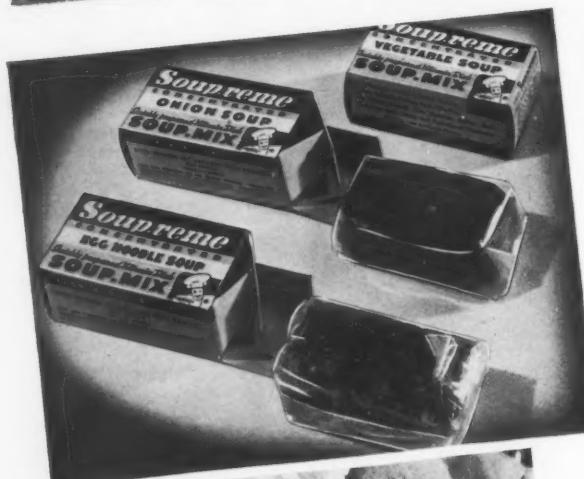
When the WPB prohibited the use of metal and tin for packing gum turpentine, the company turned to glass as the solution for their packaging problem. In conjunction with American Turpentine Farmers Assn. Cooperative, they selected an emerald-green, Boston round bottle with a fused-in label. Every bottle bears the official seal of the American Turpentine Farmers Assn. Cooperative. This fused-in label on the bottle has special advantages for gum turpentine. It does not become discolored nor does it come off in handling or when the contents are spilled over the outside, since the label is really a part of the bottle itself.

In the change-over from metal to glass containers, Turpentine & Rosin Factors had to adjust its equipment to use the latter. It was extremely difficult to secure parts and material from manufacturers of (Continued on page 116)

Above. Stand of pine timber with laborers pulling a streak on the face of a tree and also dipping oleo-resin from the cup hanging on a tree, from which oleo-resin gum turpentine and gum rosin are processed through a method of distillation. Right. Boston round bottles in emerald-green color with fused-in label which are now used. Below. Canning line. This same equipment is being used for the new glass bottles. Filling machine was easily changed so that it was adaptable to glass containers.



PACKAGING



PAGEANT

1 These soup mixes come by the bar. The wraps are of transparent cellulose acetate which affords protection against insects and dirt and is water and grease resistant. A folding carton completes the soup package and has brand and product identification. It is no bigger than a 5 cent bar of candy, but the package contains enough concentrated soup to make a quart. Western Food Co., makers of the Soup reme mixes, pack a variety of different concentrated soups in these bars. Material for transparent wraps, Celanese Celluloid Corp., New York City. Cartons, Standard Paper Box Co., Los Angeles.

2 Since the new metal-saving glass containers which The Sherwin-Williams Co. is using for paint packaging do not have wire bales as handles, the company has devised a new easy-to-carry paper bag with specially designed paper handles. The bags are very tough and can hold gallon jars easily and safely. The bags have the familiar Sherwin-Williams trade mark of a can of paint being overturned over the earth and flowing down over it. Bags by Union Paper & Twine Co., Cleveland.

3 Jeurelle Perfume Pac, a highly concentrated cream perfume, is being placed on the market by Maison Jeurelle, New York, in a large, flat plastic case. The case is molded of urea and is ivory-white. It is decorated with a circle of tiny blue flowers. For many women, unaccustomed to solid perfume, directions for use are given on the package. Material for plastic case by American Cyanamid Co., Plastics Div., New York City.

4 Ever since 1869, when Louis Prang developed the school water color box, schools have purchased their water colors in neat metal boxes. Ingenious manufacturing, however, has now produced a durable, practical water color box, as attractive in the same design and colors as its previous counterpart, the Prang Water Color Box, yet made of heavy cardboard instead of metal in accordance with the government's program to save metal. A special new feature in the box is a separate water-re-





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sistant mixing tray which is removed from the box and placed flat on the desk or drawing table. The box proper is then slipped into the inverted lift-lid cover, another innovation, and the artist is ready to paint. The inside cover carries brief how-to-use instructions, a new feature also. The brush lies in a smooth, white, water-resisting tray. Refill water pans can be used in these boxes.

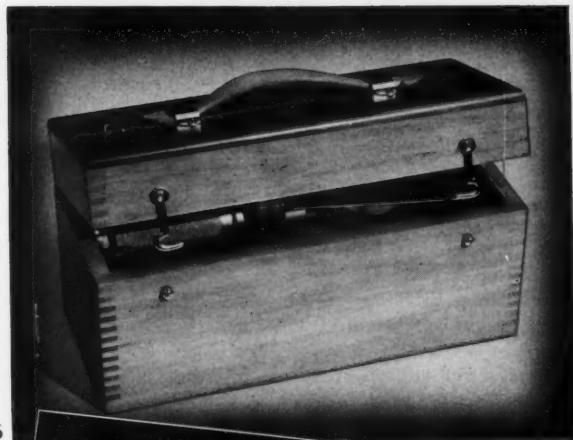
5 Dry lubricating graphite falls into that group of materials, the uses of which are obvious principally to the mechanically experienced or technically trained. However, at times even the technician and the practical shop man have overlooked many service values or possible uses for graphite. The Joseph Dixon Crucible Co. have placed this package on the market which is an example of the company's effort to incorporate modern informative labeling into the package. The new metal container has a lithographed decoration and shows eight large, clear, realistic pictures of primary uses made from actual photographs taken at the points-of-use. Attached to the back panel of the container is a 13-page booklet which explains the important applications of graphite. Designed by Egmont Arens. Made by Continental Can Co., New York City.

6 Wood boxes to house instruments and devices, used by plants and factories which manufacture and assemble materials, are replacing former metal boxes. Typical of these boxes is the special wooden one for the Michigan clamp. This clamp is used chiefly by aircraft plants to hold cables for splicing. Wood box by The Pilliod Cabinet Co., Swanton, Ohio.

7 Rite-Way shoe polish is now going to market in glass jars topped with lug caps. The caps are lithographed with a simple decoration in bright colors and carry all necessary label information. Jars, Owens-Illinois Glass Co., Toledo. Caps, The Aridor Co., Chicago.

8 Packer's Tar Soap for many years came in the flat tin container. Now it is packed in folding cartons which have the same design as the former tin. Users of Packer's soap will quickly recognize the new package as that of their familiar brand. Carton, William W. Fitzhugh, Inc., Brooklyn, N. Y.

9 Wales Chemical Co., Brooklyn, N. Y., have substituted folding cartons for former tin packages of Epsom salt, sodium bicarbonate and boric acid. An attractive plaid pattern furnishes the decorative treatment for the cartons and repeats the design of the former tins. Cartons, Robert Gair Co., Inc., New York City.



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Reclaiming crown caps

When M-104 went into effect, restricting the amount of metal crowns for beer and carbonated beverages to 60 per cent of those used in 1941, crown makers and users were very apathetic to the idea of reclaiming crowns to supplement their allotments.

All kinds of problems were involved. How would they get the crowns back? Could reclaims be properly sterilized? Would public health authorities approve? Where would bottlers get the labor, equipment and materials? All this would make costs prohibitive.

A year has past. Crowns are being reclaimed by the millions and may be used in all but five states, providing they are reformed and new liners inserted. The same problems exist. Nobody likes them and everybody will be mighty glad when he can get back to using all new crowns—but the war is still on. The demand for carbonated beverages far exceeds the quantities any bottler or brewer can produce and the need for every bit of metal that can be salvaged for crowns is very great.

At first the reclamation program seemed to be almost entirely in the hands of individual bottlers, but since has passed into the hands of a large number of crown reclaiming companies which have sprung up all over the country—little companies which because of shortages of other commodities have had to convert their industry to other fields. For example, one such company, which is reforming and refinishing in the neighborhood of 4,000,000 crowns a day, was formerly in a cosmetic business. Another, also with daily production in the millions, was formerly a bottler of natural sparkling waters.

A number of these companies are going about their business in a professional way and while their work is by no means perfect in every case, a great deal of progress has been made in how they have learned to handle bottle caps and to refinish them.

The reclamation program works something like this. The bottler of beer or carbonated beverages makes his own col-

lections. The larger companies have promoted the return of caps widely through educational programs over the radio, to their dealers, and in their newspaper advertising. One brewer told us he had been able to get back as many as 25 to 40 per cent of his caps. This percentage, however, is large; the average for a big company is more likely between 10 and 15 per cent. Consumers are told to put the caps back on the bottles; dealers are told to put them in a box near the fountain where the company can collect them. No attempt is made, it appears, for any one company to get back its own caps. Each collects whatever the dealer puts in the box.

One element in this has worked a hardship on small bottlers who claim that makers of the more popular brand drinks take an unfair advantage in forcing dealers to return crowns. Unless the dealer saves crowns, they can threaten to curtail supply or delay deliveries of the drinks in greatest consumer demand. The small bottler claims he has no such advantage and furthermore does not have the facilities for systematic collection which the larger companies started planning as soon as the metal shortage was eminent. As a result, the small bottler today is at a distinct disadvantage in making up his quota of crowns under M-104 which allows him only 60 per cent—a quantity which virtually amounts, however, to 70 per cent due to the improved methods of rolling steel thinner for new crowns to make the metal go further.

After the used crowns are collected they are sent to the crown reclaiming companies. Here the first step in the process of reclamation is removal of the old cork liners. Then the crowns are dried and sent to the reforming machines. After they are reshaped, they are sorted and those too badly damaged for further use are discarded. Next step is sterilization. After that the reshaped crown shells are ready for refinishing with lacquers or enamels. Refinished shells are then sent either to the bottler if he has the facilities or to the manufacturer of crowns to have new cork liners inserted. The latter is the most common procedure and practically all manufacturers of crowns will accept the reclaimed crowns and insert the cork liners for their regular customers.

This is not exactly a profitable operation for the crown manufacturer. It means a great deal of troublesome handling. It means that he must allocate a certain quantity of his already limited cork supplies for this purpose rather than for new crowns. Furthermore, while he is inserting cork liners in the reclaimed crowns, his own crown stamping equipment is often idle. One crown manufacturer said that whereas in normal times his crown manufacture represented a profit of about \$100,000 a year, this division was now operating at a deficit. However, crown manufacturers believe it is good business to offer this service during the war period to their regular customers for the good will that will be retained after the war is over.

Reclaimed crowns, after liners have been inserted, are returned to the bottler ready for putting on bottles. The average cost to the bottler for this service is about twice as much as the cost of new crowns and in some cases higher. One source said that reclaimed crowns cost 50 cents a gross in comparison with 15 cents a gross for new crowns. However, the need for crowns to make up the shortage is so acute that most bottlers are willing to pay for the reclaims no

1. Example of cleaning, rinsing and drying equipment.

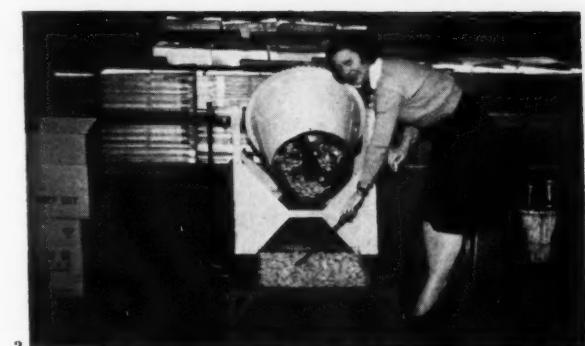


matter how much they cost. Throughout the process the only agency which makes a profit is the crown reclaiming company and many of these organizations are doing land office business, if they have been able to devise an efficient method. On the other hand, many of these new companies have lost their shirts because, in their desire for quick profits, they have gone headlong into the business without careful study of proper methods for doing the job right. The user of reclaimed crowns should select his reclaiming agency with considerable care.

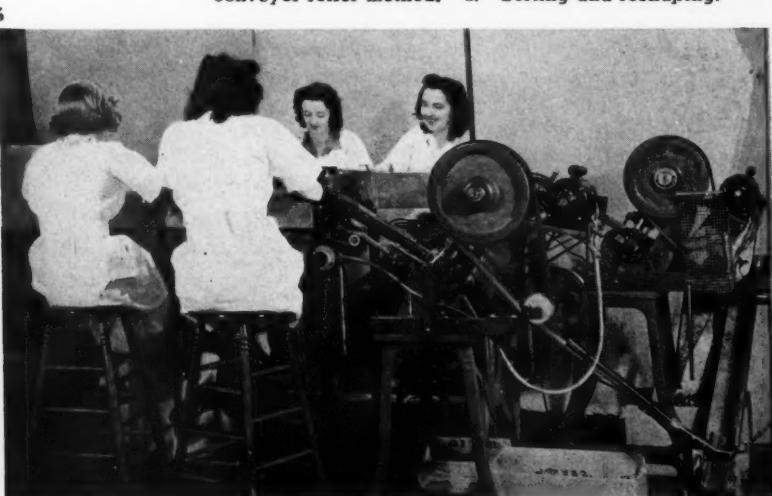
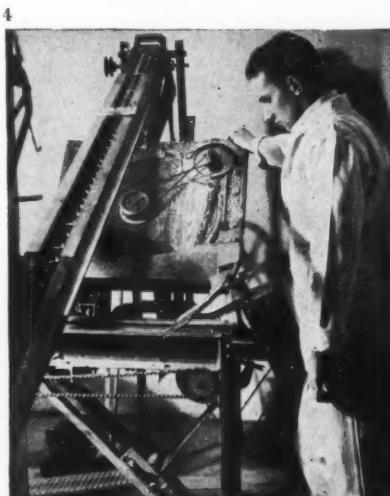
From an efficiency standpoint, reclaimed crowns appear to protect the bottled beverages as well as new crowns. There have been few complaints of leakers. Once a crown has been properly reshaped, refinished and relined, it is as good as new. It cannot be lithographed with trade identification, however, like a new crown and is usually refinished in a gray color. Colors have been tried and make a pretty good-looking job, if the reclaims are carefully refinished with lacquer or enamel, but unless this is meticulously done the brilliant colors are apt to show up more spotty than gray. In some quarters, reclaimed crowns seem to be finding their way back to the reclaiming company a second time and if, in good condition, can be sent through the process again. However, no substantial number has come through a second time and it is too early to say whether it is practical to re-use crowns more than once.

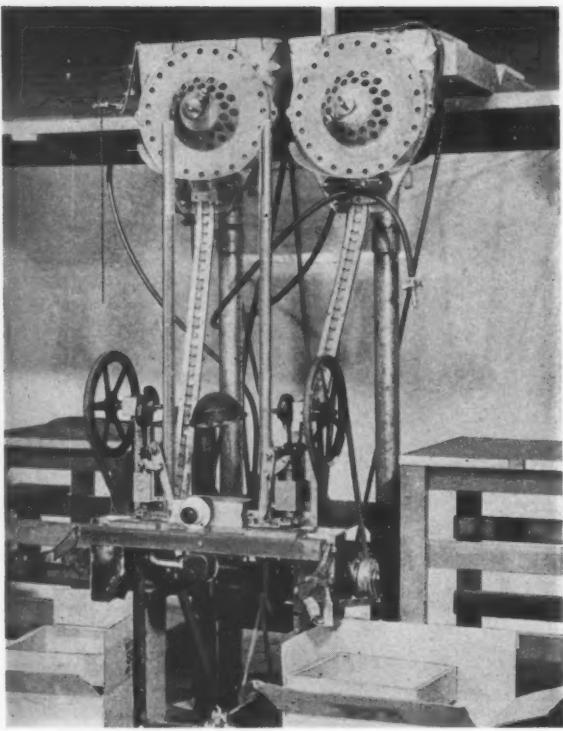
About 75 per cent of the crowns coming back from the public are in sufficiently good condition to be used over again. A higher percentage could be salvaged, say the crown reclaiming agencies, if people used proper bottle openers to remove them. Opening them with a can opener or other instruments not designed for this purpose bends and tears the shells so much that they cannot be used again. Some companies are now stressing in their cap-return programs the proper way to remove crowns to save them for re-use.

So far there has been found no adequate substitute for cork as a liner for a crown cap. The springiness of cork is an essential in securing crown to the bottle after it goes through the capper. Egg albumin and blood albumin are the ingredients used in the adhesive that secures the liner to the crown shell. In order to make this adherence effective, the reclaimed crowns are most efficient when treated with lacquers or varnishes. At present a very large amount of crowns are reclaimed and finished by the so-called "chemical treatment" and methods sometimes called black magic. These processes,



2. Spraying reshaped caps with colored enamel. 3. Shells enamelled by tumbler method are being discharged on wire trays for heat drying. 4. Shells lacquered by conveyor roller method. 5. Sorting and reshaping.





6. *Equipment for inserting cork liner discs. Reshaped caps must have new liners before ready for re-use.*

it is said, are not too satisfactory because of the poor adherence between the black oxide surfacing and the adhesive used in cementing the cork discs to the shells. Also crowns treated in this manner rust badly in ice water in which the bottled beverages are cooled.

It is for this reason that methods of refinishing with lacquers and enamels are receiving most reclaimers' attention. Dr. A. H. Warth, science director of Crown Cork and Seal Co., recently prepared an article in which he explained in detail the various methods of refinishing.

In addition to reshaping, the process of reclaiming crowns, he said, involves four steps: (1) cleansing, (2) rinsing, (3) refinishing, (4) replacing inserts. Manufacturers of alkali cleansers have been a considerable help to bottlers in cleaning caps and providing rust detergents. These cleansing agents not only remove the outworn lithographic decoration, but loosen the cork discs so that they can be separated by floating them free in water. The cleansed crown shells are thus made ready for the protective treatment that will not only improve their appearance, but which is to make them substantially rustproof when they are redisc.

An approved cleanser will remove the old finish, whether varnish, enamel, lacquer or lithographing, and will loosen the adhesive holding the inserts. The corks are removed from the crowns by running cold water. The shells free from cork are then rinsed in hot water (at a temperature of at least 180 deg. F.) to remove traces of caustic. When the shells are removed from the water they will dry quickly if thoroughly drained. Chlorine solutions are used for sterilization.

"Refinishing operations may be broadly classified," said Dr. Warth, "as (1) chemical treatments in which the surface

skin of the steel is converted to a black oxide and then sort of waterproofed with wax, (2) the lacquering or enamelling treatments which provide far better protective coatings than when the reshaped crown shells are chemically treated and make the crowns entirely rust resistant."

There are four systems of treatment: (1) spraying; (2) tumbling; (3) whirling; (4) conveyor roller.

Most generally accepted method for spraying reclaimed crowns is before the discs are inserted. The cleaned reshaped crowns are arranged dome up on a coarse screen conveyor which travels past spray guns located above and below the screen conveyor. If the lacquer is of the baking or stoving type, the spray coated crowns are passed through an oven which dries and toughens the lacquer, so that it will withstand hoppering, recrowning and pasteurization. Baking also hardens the lacquer sufficiently to enable securing a good adhesive stick between the cork and the crown shells.

The tumbling method, according to Dr. Warth, is well known to button manufacturers. The principle of operation is to place a quantity of small pieces in a tumbling barrel and then add the minimum amount of coating material that will just coat the surface of the pieces. The tumbler is then closed and after a matter of minutes the pieces are removed. One fluid ounce of enamel may cover a gross of crowns and is added in that proportion. Tumbling may take 5 to 20 minutes after which the crowns are poured out on a coarse screen tray. They can be spread out with a wooden paddle into a thin layer if the enamel is a slow drying one, before they are heat dried. Marks on a wet crown disappear when the heat hits the coating surface. A convenient size for the trays of one-half inch mesh screen is 30 by 30 in. If the enamel is fast drying, the crowns must be arranged in single layer, preferably dome up and then dried under heat-drying lamps (infra-red lamps) or by any suitable oven.

The whirling method is one that is customarily applied to certain hardware objects. In applying it to crowns, the cleaned reshaped crown shells are placed in a wire basket which is arranged in closed container. The bottom half of the container is filled with lacquer, so that the wire basket can be immersed in it. The basket is geared to a revolving shaft so that it can be whirled both clockwise and counter-clockwise to throw off excess lacquer. The excess is caught by the sides of the container and drains back into the bottom tank. After whirling 30 seconds in each direction at high speed, the crowns are poured out on a coarse screen and arranged in a single layer, preferably dome up and then baked to dry and harden the lacquer.

When a conveyor roller method is used, the clean reshaped crown shells are fed dome up on a coarse screen conveyor, which travels upward at a 45-deg. angle and through a tank containing the lacquer. As the crowns approach the liquid level of the lacquer, they are held down by a large roller which revolves half immersed in the paint. This roller holds the crowns on the screen conveyor and prevents their floating off while being coated with lacquer in the tank. After being coated, the crowns are transferred from the screen conveyor to a screen belt that moves along under a bank of heat-drying lamps. The drying is aided by an electric fan, before the crowns are emptied into the box.

All of these methods of finishing are used and the quality of results is often a matter of the skill with which each is applied rather than the method itself. Ingenuity has been used in adapting equipment for this purpose. In some cases, for example, small concrete mixers (*Continued on page 125*)

Display makers switch to drum manufacture

Another product to take to fibre drums is roof coating. Rutland Fire Clay Co. of Rutland, Vermont, and the B. F. Nelson Mfg. Co. of Minneapolis are using these fibre containers in the 5-gal. and 10-gal. sizes. The drums are constructed of materials not on any priorities list and they went through 9 months of experiment in the laboratory of their manufacturer before being placed on the market for the oil and grease trade.

Some of the tests which the drums have undergone satisfactorily include one test that was begun last July 5. A drum was filled with used oil with a high acid number. The container has proved satisfactory under varying degrees of heat up to the present time. The drum became discolored and the walls are now soaked, but the oil has not come out. An improved liner has now been added and it retains the oil within the drum and prevents the walls becoming discolored or soaked. In this fibre-drum-with-liner type of container, a test has been run for a roofing company from November 20 to April 1 of this year. The container successfully held a solution with an asphalt base and naptha. One of the most penetrating substances for paper to resist is naptha, but in 19 weeks the container showed no discoloration and no penetration of the solution. Insect spray offers packaging difficulty because of the presence of naptha in its makeup, but a test for fly spray showed that the drum would hold the product effectively. Further tests have been made with alcohol, turpentine and watery substances, the manufacturer states, which have turned out satisfactorily also. Further tests given the drums by the company have been those for the effect upon the container of sunlight, steam baths and heat, and the company feels that its container has passed the tests with a good margin of success. The drum itself is a convolute wound, laminated container of chipboard and kraft. The sides are of chipboard and the kraft is used for the top and bottom. The bottom is glued on and so far, the manufacturer reports, there has been no tendency for the plies to separate. There are 8 laminations in the walls and a special liner is added. The construction is rugged enough



to withstand being stood on, jumped on and rolled across the floor under the weight of a 180-lb. man who treated the drum as if it were a log he was rolling about. The side walls do not flex visibly under the burden or the jarring and the bottom does not tear or loosen.

The makers of these drums have an interesting history. For them, the business of manufacturing fibre drums is strictly a war conversion. Before the war, the company were makers of artificial food—those papier maché hams, bread, eggs, chickens or whatever. Altogether the company made some 450 items which simulated foods in displays for General Electric, Toastmaster, Borden's and many other companies. The Display Foods Co., as it was known, was a leading manufacturer in its particular field and for the past 6 or 7 years was considered one of the world's largest makers of these special advertising media. However, the company depended heavily on waxes for the making of its products and, as is commonly known, waxes have been increasingly hard to get. Also the market for artificial (Continued on page 120)

Above. Fibre drum with pouring opening in actual use, showing how practical this pouring opening can be. Right. These three containers show the three types of opening—on left is a container which is made with 7-in. opening and friction plug for closing it for shipment. Center, drum with 1 1/2 in. pouring opening and friction plug. Right, drum has completely removable top. In all cases sealing material is furnished with containers.



Letter from the Front

*The following was written by a high-ranking Army officer charged with receiving shipments at their overseas destination. No message could be more forceful in revealing the responsibilities of every shipper of goods to the war zones.**

"You can readily see that this environment necessitates a revision of ideas from your embarkation end. If we seem impatient at times because this baggage and equipment are not marked and sailing cables do not arrive, please remember this: the few days that are saved in New York in priming a ship are more than lost here in unscrambling the mess. I tell you in all frankness that, unless you take drastic measures, and I mean drastic, to load right and mark right, you are setting the foundation for a complete breakdown in the S.O.S. (Service of Supply). There can be no other answer; somebody with the guts to act has to wade in and demand and insist that this marking problem be solved right.

"If you could be here where I am and see the terrible mess in which things arrive, you would agree with me. This freight is arriving marked with lead pencil, small stencils perhaps 1 or $1\frac{1}{4}$ in. high, necessitating a minute examination of each piece of freight after it hits the quay.

"I want you to please remember that we are attempting to sort organizational equipment and send it to the organizations and dispatch the maintenance and supplies to depots. With many years of experience with dock labor and your knowledge of the comparatively few untrained men that I have, you can realize that this marking must be large, distinct, and readily recognizable without turning over a large box to look on three sides for a minute marking which has in many cases been completely eradicated, in order to get the supplies to their proper destinations. You must remember that all of the warehouses and some of the piers here are completely destroyed, that we must load from shipment to train and thence to depot destinations. There isn't any use raising the cry that they cannot spend the time on this. Either the method must be found to spend time on it, or our effort here will collapse. I cite here some further examples which I know from my own personal knowledge and observation of the way stuff has arrived here:

"(a) I opened a box at one of our depots yesterday; it cubed about 15 ft. It was a carefully crated cardboard box packed in excelsior and contained one shelter tent complete. There was no mark to indicate where the box came from or what damn fool shipped it.

"(b) In this same depot I found two brand new . . . engines. These engines were mounted on a platform of 2 x 6 with no other crating. No destination was shown, nor were there any indications where the engines were shipped from. They were completely ruined, one head cracked in, 3 manifolds crushed, both fuel pumps twisted, 1 distributor gone, 1 transmission case broken and God knows what else.

"(c) I saw an empty wooden reel carefully crated which would cube 30 ft. I could make it with a saw and hammer myself in two hours. What hammerhead shipped that here, I don't know. There are no marks on it and it will certainly serve no useful purpose here.

"(d) There were over 300 boxes of blank forms at the same depot. They were shipped from practically everywhere in the States. Each box weighed about 300 lbs. and not a single one had a packing list or a description on the outside to show what forms were contained therein.

"(e) There were simply dozens of boxes of every shape and size with addresses written in lead pencil on each side and a million other idiotic methods of marking. Conditions of this sort can be readily spotted at the port of embarkation and proper marking would save untold amount of grief over here.

"It is reported that some of these conditions are going to be corrected, but I say in all sincerity to you, that, personal considerations aside, this thing is not going to be solved by the mere issuing of a War Department order. I frankly and honestly say that but one solution presents itself to me; namely, that it will be necessary to station a corps of officers at the ports of embarkation with adequate help to mark fully with paint all equipment and then to burn the . . . out of the men who shipped it to the port in that shape.

"If you get a reaction from New York that this is unnecessary, please do this for me. Put the babies who make this assertion on a plane and send them here to me. I'll make them unload a few of these ships and distribute the cargo and we will then send them back to New York with a little education as to what the problem here is.

"I would like very much to see some fellow who was skeptical of this condition working from a cramped dock in Liverpool, for example, and attempting to deliver these supplies to 47 different depots and keep it moving."

* Reprinted through courtesy of The Hinde & Dauch Paper Co.



KEEP YOUR POWDER DRY

This is the way one user advertises his new baby powder container to the drug trade:

"First: They couldn't change their present packaging machinery.

Second: The new container had to be *sift-proof*, yet still have a sifter top.

Third: They couldn't use material vital to the war effort.

Fourth: The container had to be good-looking, easy to handle, tough in service."

There you have the stiff requirements Burt had to meet with a *paper package*—and the proof of their fulfillment is in the new Baby Powder packages. They keep the powder dry—and the sales moving—and the customers happy.



This is another of Burt's contributions to wartime packaging. More will appear in this space in subsequent issues of Modern Packaging

F. N. BURT COMPANY, INC.

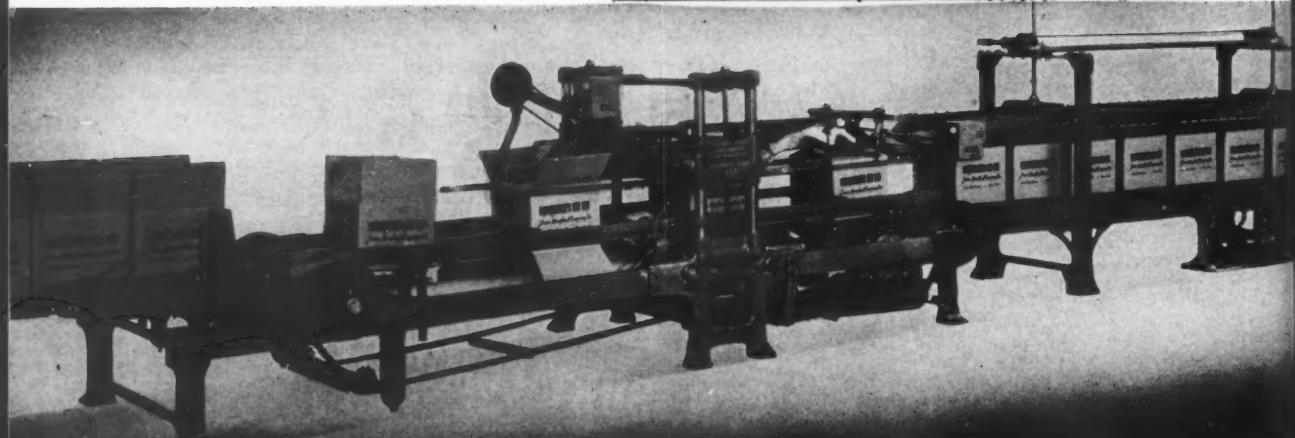
500-540 SENECA STREET, BUFFALO, N. Y.

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IT'S NO
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We've been publicly cited for our contribution to the wartime "packaging" of munitions — machines which are applying the sound engineering principles behind our peacetime equipment to the new tasks of loading machine gun bullets into belts, and putting powder and lead into shells automatically... It's also no secret from our customers — and those who would like to be our customers — that Standard-Knapp case-filling and case-sealing equipment is the best you can buy. That's why leading plants in all industries use it. That's why so many more will be buying Standard-Knapp machines after the war.



STANDARD-KNAPP CORPORATION

MANUFACTURERS OF CASE SEALING, CASE PACKAGING, AND CAN LABELING MACHINES

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3224 Western Avenue
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1208 S. W. Yamhill Street
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300 Seventh Street
SAN FRANCISCO

Paul Brown Building
ST. LOUIS, MISSOURI

Windsor House, Victoria Street, LONDON, ENGLAND

MODERN DISPLAY



Shulton brought out new packages to attract attention to the company's dry products.

No retreat for brand names at point of sale

"How much importance are you giving to your display program now?" That was the question Modern Packaging asked of a cross-section of the country's provisioners, manufacturers and advertisers. Was display slowly disappearing from the scene for the duration and its absenteeism charged to rationing, shortages of goods or to other strictly wartime difficulties? On the other hand, were display programs being carefully planned within the restrictions of a war economy and with a thought to post-war advantages? These were the major things uppermost in the minds of most of the people who had been consistent users of displays for many years and who now were seriously considering what they were going to do about their programs. In conducting the survey, Modern Packaging felt, if the experience of a considerable number of companies could be pooled, that users of point-of-purchase materials might be helped in making decisions about their own programs.

Letters received in answer to the inquiry bore out in one respect what was a fairly obvious conclusion. Rationing and shortages of goods were the two most important factors which were having an immediate effect and a lasting one upon all

display programs. Those companies which had gone over almost wholly to war work apparently were not remaining in the usual display picture, from all indications. With no merchandise to sell, point-of-sale pieces as they were understood in normal times are not being used. However, window treatments and units for the store interior are given retailers to keep alive brand identities and to retain public good will. Among those companies whose shortages of goods for civilians are greatest, displays are created not to sell goods, but to help consumers save what they have.

From The L. S. Starrett Co., makers of precision tools, hacksaws, etc., came the comment that they had "discontinued about 50 per cent of our line temporarily to concentrate production on most critical items" and that they were "not using any display material for the duration." This is an example of a company which in normal times used a limited amount of specific display material, but finds it unfeasible to continue its program when conversion to the manufacture of critical items for war has been so complete.

Westinghouse Electric & Mfg. Co. gave a new angle to its promotional units. "Of course," the company wrote, "with



1

no merchandise to sell, our regular products display services have been discontinued, but of interest might be two window trim activities which we are now using.

"1. Radio program display. We have prepared and distributed a 5-color lithograph window trim which is designed to build greater acceptance for our Sunday radio program. . . . We have given our retailers a very selfish reason for using it—to build good will and maintain local identification. This display has been distributed to 10,000 of our retail outlets.

"2. Care-and-use window display. We have made window trim sets available to retailers. These give the passersby specific suggestions for taking better care of the electrical appliances they now have."

Another company states that "rationing, shortage of goods, etc., have all given way to no production at all." This company is the Bissell Carpet Sweeper Co., which has, nevertheless, made some definite plans for keeping alive its brand name. Mr. Nickel of that company wrote, "Display programs are given, I believe, considerably greater latitude in these days of war than during the era we knew as 'normal times.' And this latitude parallels conditions under which the individual manufacturer is able to continue his business—the extent to which war has curtailed or completely eliminated his peacetime production and merchandising program.

"Many consumer lines have been completely shut off. Included in this category are carpet sweepers. So, with no goods to sell we quite logically have curtailed much of our normal display advertising program. We have not, however, lost contact with the vast Bissell dealer organization. That contact goes on through frequent mailings and a maintained program of consumer 'service' advertising—also designed to maintain the consumer acceptance of our product. There is now in process an attractive display card, which soon will be made available to Bissell dealers for posting in housewares departments or in any other department in which sweepers formerly were sold. This card carries a message to back up the dealer's statement to his customers that carpet sweepers are 'out,' probably for the duration. It also carries a brief service message on how to care for sweepers and how to make them last 'til victory is won. 'After victory. . . a new Bissell.'"



2

3. *1. Here is a druggist ready to put up the B. F. Goodrich Co.'s "The Druggist's Pledge"—one of the few display pieces the company is now using. 2. Display piece with packaged product for Four Roses contains no sell copy. 3. Cannon Mills has narrowed its display pieces down to this one which tells consumers how to make their towels last longer. 4. Brown-Forman, makers of Old Forester, have adopted the policy of making replicas of their bottles in actual size.*



3



4

The turning from displays to other media to get across a message to the public is shown in a number of instances. Burgess Battery Co. writes: "With the advent of the United States into the war, dry batteries very suddenly became a vital war material. Today thousands upon thousands of dry batteries are serving in vital communication rolls on our battle fronts as well as being employed in strategic jobs in all of our industrial plants on the home front, busily turning out war equipment. The combination of these two increasing needs has caused a serious dry battery shortage here at home. Civilian supplies of such items as portable radio batteries have been done away with entirely and just recently limited production has been authorized by our government to take care of such essential civilian needs as farm radios, flashlight batteries and those battery types needed in the sections of rural America not served by rural electrification.

"We have not attempted a strict rationing program as far as our distribution system is concerned, but we have successfully put into effect an allocation system which enables us to distribute equitably the limited quantities of batteries available for civilian distribution. Through the cooperation of our Burgess distributors, we are very effectively and very successfully supplying as many dealers as possible with the limited quantities of farm radio packs and flashlight batteries as we are able to make under present conditions. This is our big task today and an educational program of this sort can most effectively be done through space advertising rather than through point-of-sale displays.

"One step further—we are attempting to educate the ultimate consumer to the necessity for conserving the critical materials that go into the manufacture of dry batteries. Naturally with a market far exceeding the available supply of dry batteries, the dealers had a rather hostile attitude which has been successfully combatted with our equitable distribution program. The ultimate consumers of dry batteries have expressed their appreciation for the information and helpful hints which we have supplied them to enable them to get maximum service life from every battery they use."

Product change due to shortages must be explained to the customer. Much of this information is given through dis-

5. This is one of the window trim suggestions now being used by Westinghouse. It is designed to build greater acceptance for the company's Sunday radio program. Purpose of the piece is to build good will and maintain local identification. 6. Another of the Westinghouse window trim arrangements. The company calls this a "care and use window display." Window gazers get specific suggestions on how to take care of electrical appliances.



play where the consumer can learn about the change at the time he makes a purchase. Swing-a-way Steel Products reports, "We are planning to make some changes in our can opener to try to save steel. We are making a change in one of our circulars announcing our black magic plating."

Club Aluminum Products Co. has curtailed its merchandise displays in so far as their off-the-market items are concerned. However, they are still using them in promoting several lines of merchandise they have now on the market—Club glass cookware line, coffee dispenser, thermo-seal glass cookware line and their Household Institute line of dinnerware. The company is also making preparations to place a new line of household cleaners and polishes on the market. "We expect to include store displays in our merchandising plans for the new cleaner and polish line," the company states.

In regard to the displays themselves, Club Aluminum Products has this to say: "We have, of course, been experiencing considerable difficulty in securing displays on account of shortages of materials and manpower—the latter principally in the shops performing mounting service. Whereas we used to be able to get reasonably speedy delivery, now about the best we can get is 6 to 8 weeks, even on re-runs. Where a test carton for a unit pack is included, the time may be even longer. In talking over plans for possible cleaner products displays, we are informed by suppliers that about the best delivery we can expect is July or August.

"We find that many dealers still want displays. In fact, in some quarters, the restrictions on the size of a display appear to be lessening. Some stores have been glad to have larger displays than they would use previously, because they have more empty shelf and counter space than in the days of more plentiful merchandise."

Display programs for foods have also undergone much the same kind of change and elimination as that for products in the critical materials field. Armour and Co. find that rationing, shortages of goods, changes in containers, attitude of dealers, reactions of consumers and government consumer education programs have all affected their program. These are the same factors which have, of course, affected the programs in all other fields. However, the factors are not of equal importance in all business and industry.

6





"Rationing," Armour reports, "has changed a majority of the appeal on our material. Shortages of goods discouraged display of either products or advertising. Our dealers have not welcomed old forms of advertising that tended to offer specific products that are in short supply. However, both dealers and consumers are reaching for 'how to shop,' 'how to plan,' 'how to serve' information on food products. As a result, our display pieces (of the type illustrated) are being welcomed enthusiastically."

"In regard to rationing and shortage of goods," Weston Biscuit Co., Ltd., points out, "our sugar and shortening have been cut 30 per cent. Consequently, our production has been reduced by this percentage which means that we do not have sufficient merchandise to go around. We have been

7. Another arrangement in Macy's, New York City, for Shulton, in which the company's new packages for dry products are shown. Only simple counter cards are used. 8. Armour helps the housewife plan new recipes to extend rationed meat. 9. This new bouillon cube carton takes the place of a tin tube previously used. An attractive self-service display container draws attention to the product.

forced to discontinue producing many package items due to shortage of cookies and labor. We have made no recent changes in our packages, but we are packing our bulk in large attractive containers." These containers the company displays in a large cabinet which provides the necessary promotional material—product and brand identification—for their product.

Crosse & Blackwell Co. explains that rationing "has been a mixed blessing in that the effect has been to eliminate display needs on some items and at the same time creating a need for displays on others. The basic division, of course, is the supply status so that where actual shortages existed display material became unnecessary. Regardless of rationing the opposite has been the effect on items where delivery could be continued.

"Merchandise shortage has, of course, reduced display material needs. As is obvious, there is little point in aggravating the retailer's problems with possible loss in consumer good will through the maintenance of any display where the merchandise cannot be regularly supplied."

In regard to explaining container changes to the public, Crosse and Blackwell say, "We believe the answer to this question goes back to the ability to supply the new package. About as often as not, where regulations changed the package or container, this did not eliminate the uncertainty of supplies. Where this has not been the case, we have made every attempt to obtain displays with and without regular material so as to quickly bridge the gap and acquaint the consumer with the changed appearance.

"Until the advent of rationing, the factor of dealer attitude tended to subordinate merchandise displays. The loss of help and the increasing demand for merchandise have a considerable negative effect on display programs and display materials. Needless to say, this has now been changed with the necessity to the retailer of again attracting as many customers as possible."

Consumer reaction about displays Crosse & Blackwell finds is that "when a display forcibly brings to the consumer's attention the fact that the merchandise is not rationed, it seems to be a very telling sales point."

8

Armour and Company

9



10



11



12

Shortages of goods have had the greatest impact on the Snider Packing Corp. normal display program. "We depended upon our retail staffs, which have been discontinued, and upon our wholesale salesmen and brokers to distribute and/or direct the distribution of our display material. This display material was valuable to them, they felt, as point-of-sale helps. There being no help needed at the present time at the point-of-sale, their interest in distributing this material solely for its advertising value is negligible."

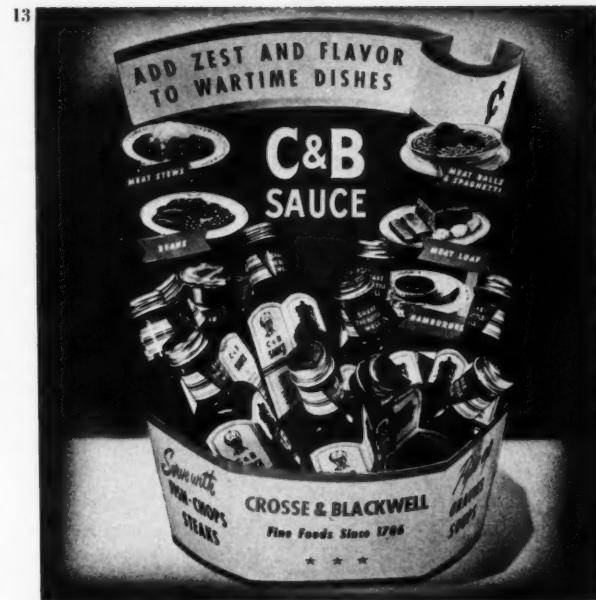
Del Monte has been helping the housewife with information on foods, ration points and menus in the company's point-of-sale material. Even the growing of victory gardens has been the theme of ads and displays. Del Monte suggests to storekeepers how quick-to-build displays of glassed fruits and vegetables can dramatize this year's need for home fruit canning and at the same time can tell customers that Del Monte foods are available. To quicken the store's seed sales, Del Monte suggests that seed packets be shown in the fresh produce section together with a poster, "Enlist now! Save the Surplus, 1943. Help yourself to more fresh vegetables—grow your own!"

"In addition to good shelf display," the company points out to the grocer, "you can use small table, basket and counter displays to advantage. Such displays make a helpful suggestion to the customer and encourage her to buy for a week at a time, too.

"One good helpful display would be to show a group of Del Monte Foods, any of which can be bought with a certain number of points. The point of this type of display is that when a woman has just a certain number of points left in her book, you give her a quick picture of what she can buy with that many points."

Special problems confront the manufacturer who would like to continue using displays to tell shoppers about rubber sundries. The B. F. Goodrich Co. has some interesting things to say about how that company is handling the situation.

"Being in the rubber business," (Continued on page 118)



13



14

10, 11 and 12. Club Aluminum Products Co. are using merchandise displays to promote several lines of merchandise now on the market. The company has had to curtail the use of display for off-the-market items. A two-color easel-back unit shows the Club coffee dispenser. A three-color piece features the glass cookware line shown on a simulated gas stove. A step-up unit shows off the Household Institute dinnerware. 13. A lithographed basket is the newest display for C & B Sauce. 14. Weston's products in bulk packs of cookies are shown in this service-type, corrugated unit, with all needed promotion material.

Paper profits

Now you take R. H. Macy . . . not that anyone does, of course. A few years ago everybody went around saying how sagacious Macy's was. Lately you have heard more about Roosevelt, Churchill, Montgomery, etc. . . . but Macy's is still smart—especially at Christmas time!

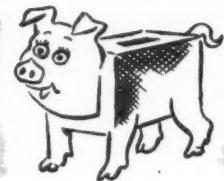
Most big stores stock toys and some second-hand Santa Clauses. Macy's goes show business, but big!

Last year they gave a couple of acres of floor space to a mystic maze entitled "Pirates Treasure Hunt." The kids came in at Pier 21, stopped at Davy Jones' Locker, Skeleton Island, Captain Kidd's Ship, Ali Baba's Cave, etc.—seven stops in all. There was a show at every stop, and a present—pirate's hat, earrings,

mustache, spinning top, periscope, etc. and a game. The kids paid two bits to get in, but left starry-eyed, with so much loot that many forgot to proposition Santa Claus—a big break for the parents.

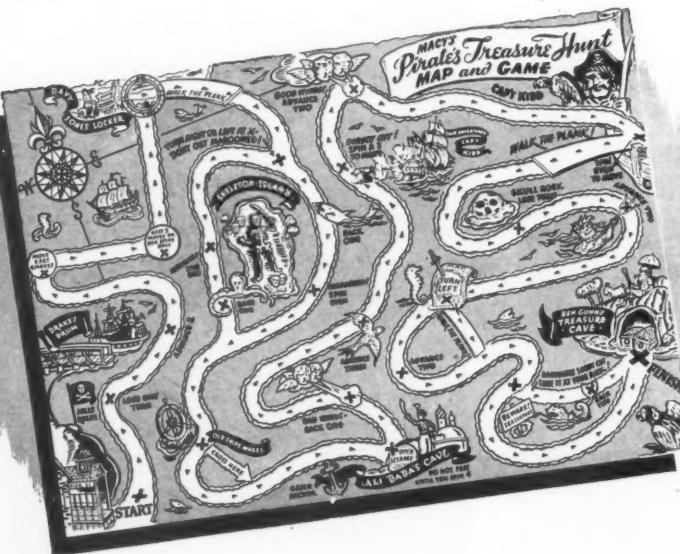
The loot is where we came in. Einson-Freeman furnished the seven toys and gadgets, plus the games, each in a separate envelope—at a price that left Macy's no complaint. The Macy show was S.R.O. from turkey day to Christmas Eve.

SEARS Stores tries to make friends and influence the young people at Christmas time, too. Last season the toy shortage cramped their style. But E-F came to the rescue with a kid promotion.



It was a twelve-page comics book about the Lucky Jingle Piggy, who organized all the toys for war work, stamps and bonds. Laugh if you like, but the younger generation took it straight—to the tune of more than 200,000 kids! A cardboard piggy bank was part of the act.

A broadside and explanatory letter for store managers, postcard to Santa Claus for visitors, completed the ensemble. The store indicated quantity desired, and put his X on the dotted line. The cost of this kid promotion was astonishingly low. Results—sensational! Ask Sears!



MILLER HAT Co. makes hats for boys. Boys haven't been partial to hats of late years. To heighten the demand for headpieces among the juveniles, E-F prepared a series of giveaway paper toys and games—a cardboard blinker for sending messages in code; commando periscope, Dick Tracy detective kit, a bombsight, and other devices, each with a game plan, instruction book. One item went with each hat.



...and very nice, too!

Well dressed kids today are wearing hats—and you will probably find that the hat came from Miller. But the incentive that sold the hats came from Einson-Freeman!

BY THIS time you may have the idea that Einson-Freeman specializes in the youth group. Not, however,



exclusively! Scrutinize Exhibit S, shown somewhere on these pages.

As you know, distillers may not give away premiums (it's illegal!).

Schenley's discovered there was quite a market for home bars. Some of these domestic thirst-centers were jewelers' jobs, and cost like the Kohinoor. The least expensive was still plenty expensive. So E-F devised for Schenley a knock-down cardboard bar, chest high, capacious enough to house a moderate cellar, strong enough to support a bar fly. It has a beautiful wood finish that would fool a termite, is good looking enough for the stately homes of England. The price to the consumer was \$1.00, packed for shipping.

The original order has upped 250%. The bar is still going strong.

PAPER and board are just so much raw material, or so much junk.

Paper and board *plus* a pleasing idea, can be a customer-coaxer, a good will token, a useful utensil or device, a reminder, an advertisement.

Einson-Freeman manufactures ideas. Paper, board and ink just happen to be the materials we know best. While display is still our first

love and bread and butter, E-F produces premiums, prizes, toys and gadgets . . . that put profit into paper—for you as well as for us.

Uncle Sam is our first customer



today. After him, you come next. We have plenty of ideas that the government can't use—but a good merchandiser can!

If keeping customers interested, attracted and assured is one of your problems today, we may have a solution in paper that spells profits.

Call us any time, at any office.

Einson-Freeman Co., Inc.
INCORRIGIBLY INGENIOUS LITHOGRAPHERS

STARR & BORDEN AVENUES, LONG ISLAND CITY, NEW YORK

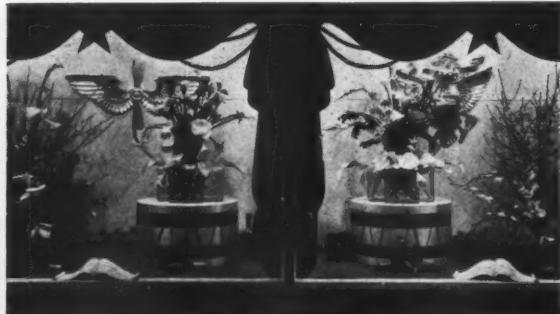
Display Gallery



1 New three-dimensional counter display now being distributed by Charles Ammen & Co., Ltd., Alexandria, La., to retail druggists, and to stores for toilet goods counters, features Ammen's triple action, all-purpose comfort powder. The unit is printed in 8 colors and is about 16 in. by 12 in., a very good size for counters. Designed and made by Einson-Freeman Co., Inc., New York.

2 The three photos below show a few of the windows at J. W. Robinson's in Los Angeles which were turned over to a series of displays featuring Lentheric perfumes. The theme for all 15 of the store's windows was United Nations of the World. For the 11th consecutive year, in spite of the war, Robinson's has devoted its windows to a flower fete at which Lentheric perfumes are shown exclusively. A'Bientot perfume was used in the window below which has the figure of justice. Subject of the window was "Occupied Countries" and the packages and bottles of perfumes were grouped in among fancy leaf caladium, strelitzia, tulips and flowering peach. Windows devoted to the Lentheric men's line were strong and simple. Framing the windows were heavy, deep-toned drapes against which red, white and blue tasseled cords were hung and looped. Large stars caught up the swags. Various accessories lent a military air, such as drums on which massive jars of flowers were set, military caps and golden eagle insignia. Another effective window correlated the colorful Confetti packages and fragrance with an equally colorful parade of the flags of the United Nations. A world globe made completely with flowers added a striking touch. A setting of many colored flowers intermingled with ferns gave a true, confetti atmosphere.

3 This recent G-E display, made in two sizes for different types of retail outlets, has a very definite patriotic motif and sets forth the part that G-E dealers must play in these wartime days. The large-size piece has a special shelf basis to give it



depth; the small display is all on one plane. Each unit also indicates the part that Mazda lamps are playing in the war and the observer is urged, on an eye-catching shield, to "Get into the fight" and to "Buy War Bonds and Stamps." Designed and made by Forbes Lithograph Mfg. Co., Boston.

4 Candy Crafters, Inc., Lansdowne, Pa., have adopted a new display container for their packages of licorice lozenges and for Majorettes—candy-coated chewing gum. When shipped to dealers, the containers have a cover (at the left in the photograph) which is removed by the dealer. Individual cartons for lozenges and the gum picture the product on the package and give the effect of a transparent window. Cartons, Robert Gair Co., Inc., New York City.

5 Life-size, full-color, self-service floor display for Soilax is the spearhead of the 1943 sales materials being offered free of charge to dealers by Economics Laboratory, Inc., makers of the cleanser. A saucer of the cardboard that forms the display is filled with the pink powdered Soilax to permit the shopper to see the product. Next to this demonstration aid are placed several packages of the product for customer self-service. A miniature reproduction of the floor display fits on the top of a regular size box of Soilax to serve as a counter display. Window posters and pennant hangers, etc., round out the material. Floor display by Einson-Freeman Co., Inc., Long Island City, N. Y.

6 The Nyal line of drug products consists of a variety of items and the problem for display was to get one that would enable a dealer to feature any two of the products at one time. In order to do this, a book type of display was chosen which will permit the display of 22 different items. This makes the display very flexible and enables the dealer to feature any two products he desires, according to the season of the year and his stock of merchandise. In order to make the unit resemble a book, a plastic binding has been used, which enables the dealer to turn the pages easily and after doing so to tuck the corners of the pages into the small corner pockets to keep the pages flat and in place. Designed and made by Zippordt, Inc., Chicago.

7 Each half dozen of Mennen Quinsana powder for athlete's foot is now packed in an eye-catching, self-display container. Retailers are urged to put it up on the counter in a prominent spot and to keep it there all summer long. Attention is called to a feature on athlete's foot that appeared in a magazine, which affords special recognition value for the shopper.



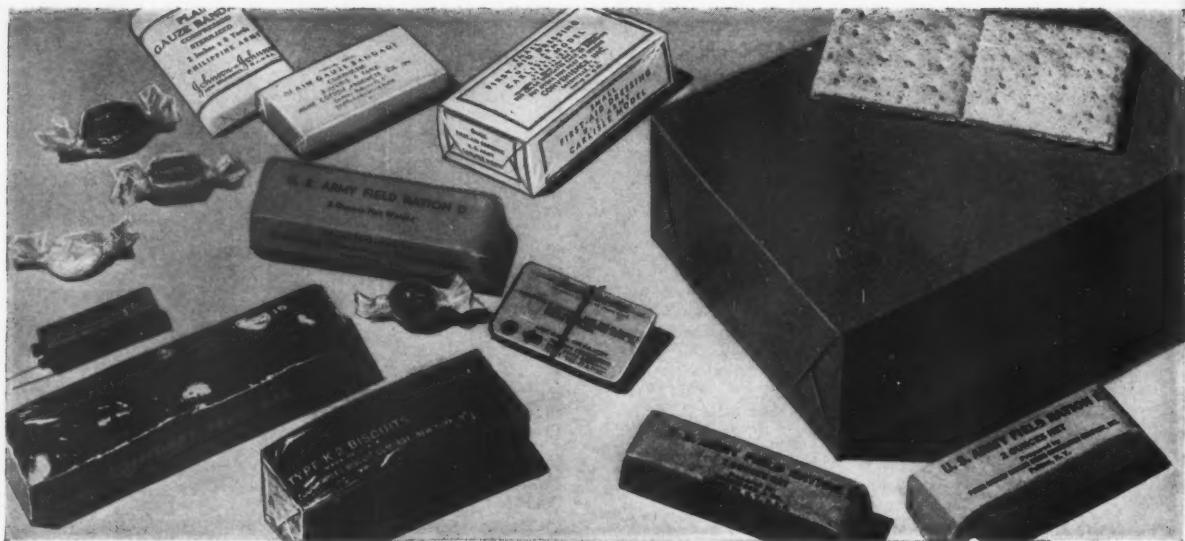
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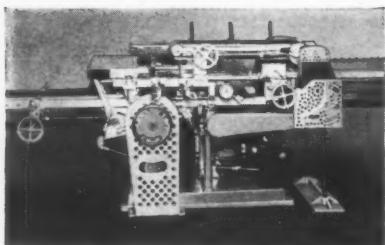


NEW Wrapping Machines for WAR WORK or Essential Civilian Supplies

We have so arranged our production, that the building of a limited number of essential wrapping machines does not interfere with our armament work . . . Also, by redesigning our machines, we have eliminated a large percentage of strategic materials formerly used.

Orders for such machines must, of course, bear high priority. And under present conditions, it is advisable to consult us as far in advance as possible.

So if you need, or will need, a new wrapping machine to meet demands for essential civilian supplies or to fill government contracts, get in touch with us now. We will be glad to give you helpful information regarding priorities required and the time it will take to supply you.



MODEL FA

One of our models now widely used in current war production. This machine is adaptable to any wrapping material, and is quickly adjustable for various size packages.

PACKAGE MACHINERY COMPANY, Springfield, Massachusetts
NEW YORK CHICAGO CLEVELAND LOS ANGELES TORONTO

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

TECHNICAL SECTION

- MACHINERY
- PRODUCTION
- TESTING

Technical Editor

CHARLES A. SOUTHWICK, JR.

An upright feed machine equipped with two sets of crimp jaws, one hot, the other cold. Hot side is thermostat controlled; both top and bottom jaws are heated. Designed for the larger thermoseal bags, particularly the square, gusset-type, 1/2-lb. bag and larger.



HEAT SEALING—2. Techniques and Mechanics

by F. S. Leinbach

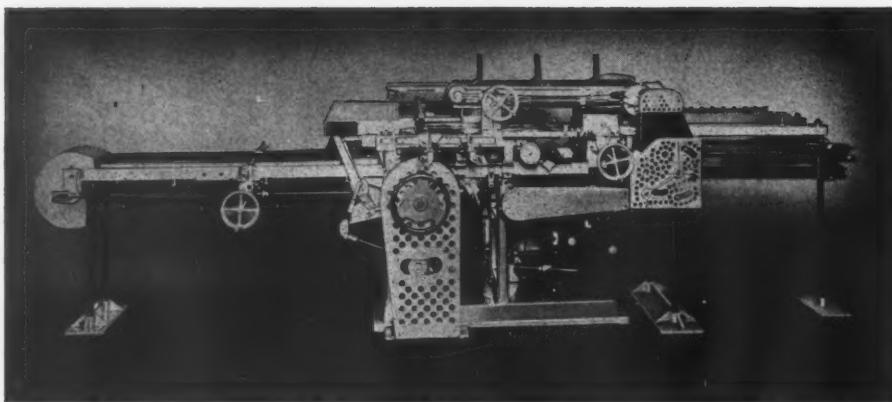
The effectiveness with which two or more layers of a particular heat-sealing material may be made to seal together depends upon three factors: 1. Temperature used to furnish the heat; 2. the pressure with which the layers are held in contact; and 3. the time during which the hot contact is maintained. Each of these factors varies in reaction to the other two.

As indicated in a previous paper,* a heat-sealable agent is heat sealing because there is some temperature at which it either melts or becomes fusible. The factor of temperature in heat sealing, therefore, is determined by the temperature at which fusion of the particular material can be accomplished, but it should be noted that if an agent fuses at 200 deg. F. the sealing mechanism furnishing the heat may have to be much hotter than that, for it must drive enough heat through the intervening layers of sheet or film to raise the two surfaces in contact to the fusing temperature. How much hotter the

sealing mechanism must be depends entirely upon the pressure with which the contact is maintained and particularly upon the time that is allowed for the heat to transfer. Furthermore, surface temperature of the sealing mechanism is only an indicator—the amount of heat its heater can furnish is the real determining element, because it must have sufficient capacity (wattage, in the case of electric heaters) to transfer heat enough to make seal after seal and still maintain the temperature differential required to cause the heat transfer capable of raising the inner surfaces to their fusing temperature. For the surface of a sealer to be quite hot at the start of a run is of no particular value. The heater must be strong enough to keep it up to the proper temperature throughout the run. It would be hard to over-emphasize this fact.

Pressure of contact is important because under close contact the heat will transfer more uniformly, more thoroughly, more quickly, because the seal will be stronger with every point of the sealing area in close contact rather than apart in spots and because the temperature at which most heat-sealable

* A previous paper by Mr. Leinbach on "Agents, Their Application, and Evaluation," which appeared in May Modern Packaging, told about the types of heat-sealing agents and the general methods of directing these to packaging use. Mr. Leinbach is Assistant Deputy Director of the Containers Branch of the WPB, Washington, D. C.



This is an automatic wrapper with temperature control mechanism for use with rubber derivative sheeting. This is an example of a machine adjustable to various sizes of packages.

materials will fuse generally decreases, within limits, with an increase of pressure. As is well known, some of the softer heat-sealing agents will seal at ordinary temperatures under sufficient pressure. Increased pressure, therefore, aids the ease, strength and thoroughness of a seal unless some extraneous factor, such as rupture of the carrier film, for example, is introduced.

Time is a very important factor in heat-sealing technique and, as indicated above, is closely related to temperature. At any given temperature and pressure, enough time must elapse for sufficient heat to penetrate the intervening layers and cause fusion of the sealing surfaces. Increased temperature (properly caused by sufficient heat supply) and increased pressure will require less time. Thus, of the three basic factors in heat-sealing techniques—time, temperature and pressure—none of these factors operates independently for each is closely related to the other. Regarding this time-temperature-pressure relationship, it is also most important to note that there are limits affecting each of the three factors and their inter-relationship. If the heat supply is increased, at a given pressure, the time can be decreased, but this relationship reaches a limit two ways. The first limit occurs when the time is so short that the sealing mechanism must become so hot that it burns the outer plies of the seal, yet never raises the inner sealing surfaces to the sealing temperature. This is one reason why certain materials are found to have a limit of operating speed regardless of heat supply in the sealing mechanism, for as the speed of sealing of the mechanism is increased, the time factor is decreased to a point at which the above mentioned difficulty is encountered. This is fairly common and is most easily noted on fibrous base materials. This situation can be alleviated if the sealing or wrapping mechanism is equipped to apply to the sealing areas small amounts of a solvent which will partially dissolve or soften the heat-sealing agent. Under that heat which does reach the fusing surfaces, this solvent softens the coatings, enables them to fuse and then evaporates under whatever heat is there at the time or during subsequent time. Such aids to sealing are known as "solvent activators" and their composition must vary according to the composition of the heat-sealing materials they activate, for they must be of a type capable of dissolving that particular coating. They are so effective that the widest use is in enabling heat seal of materials that ordinarily are not heat sealing, such as the type of cellophane usually used for cigarette pack wrapping.

The second limit on the time portion of the time-temperature-pressure relationship is, as indicated above, the strength of the heat supply. It is most important to realize that the

surface temperature of sealers at the start of a run means little. There must be sufficient heat supply to keep furnishing heat to seal after seal without cooling below the supposed or apparent surface temperature. One fallacy of inexperienced operators is to suppose that because a thermostat on the sealers of a high speed machine has a marking for 500 deg. F., the mere setting of the device at that figure guarantees that temperature. Under some such instances it has been found that the current merely is allowed to flow all the time, that the heater is not strong enough during the run to hold the temperature above an actual 275 to 325 deg. F. and that, as a result, the thermostat never gets a chance to control the temperature. Obviously, for effective operation under this condition the time factor must be adjusted (machine slowed down) until it comes into balance with the heat-furnishing ability of the sealing mechanism.

Regarding temperature, it must be realized that every heat-sealing agent has an optimum sealing range—a range of temperatures below which inadequate seals are obtained and above which the seal is not so tight as it could be made. This sets a limit upon the temperature portion of the time-temperature-pressure relationship. The effect of a solvent activator, used under difficult circumstances, is to broaden the optimum sealing temperature range of the heat-sealing agent. A further limit becomes apparent when it is realized that if the outer plies, or outer portions of plies adjacent to sealing surfaces, are made so hot that they remain above the sealing or fusing temperature of the heat-sealing agent, that agent remains soft, the seal is not self-supporting and it comes open. Some materials that actually melt, such as paraffin wax, and others which fuse at similarly low temperatures, always require a definite "chill," or cooling while the component plies of the seal are held in place. An example of this is found in the "take-away" belts on a bread wrapping machine handling waxed paper. Without the chance to solidify in position, the seals would all come open. Materials that fuse at a higher temperature, such as heat-sealing cellophane, do not need that type of "chill," but they must not be made so hot that their heat cannot quickly transfer to surrounding areas or the seal will be less effective. Self-supporting, heat-sealing films, such as rubber hydrochloride, should not be made too hot, for the material will be pressed out too thin and what otherwise would be a weld of the entire material as strong as the film itself becomes the weak point of the package.

The limitations upon the pressure portion of the time-temperature-pressure relationship are mainly mechanical and can be seen easily—things like package deformation, rupture of the film, and the like.

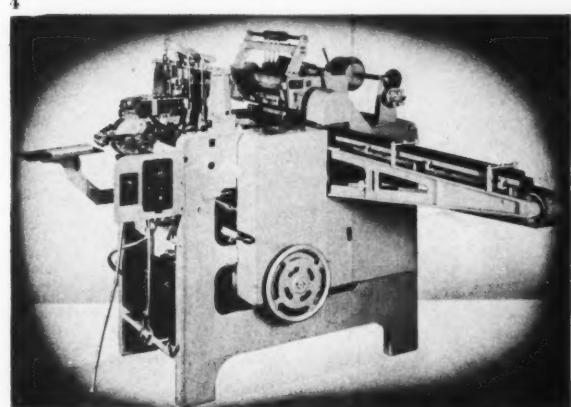
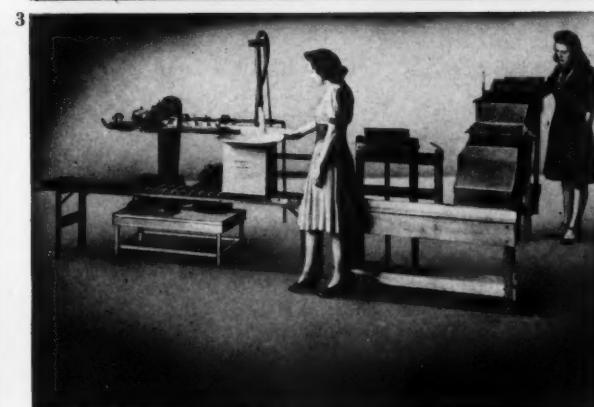
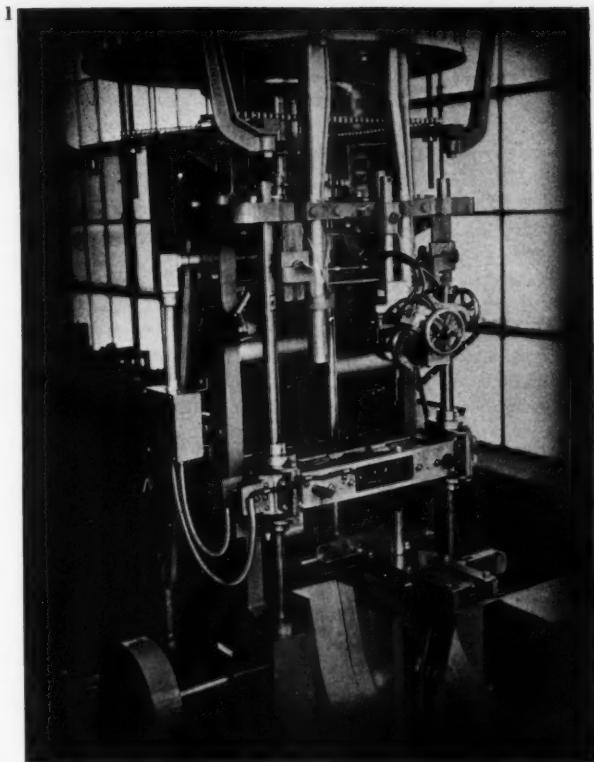
The handling of the time-temperature-pressure relationship is a technique which must be worked out in practice with a given heat-sealing material on a given sealing mechanism doing a particular job. It is seldom possible for even the most well-informed manufacturer to tell the user exactly what temperature, for instance, to use with his material, because this will vary according to the job the user wants done as well as according to his equipment. Large packages running at high speed, for instance, will take more heat away from the sealers and thus require more heat than smaller packages run at lower speed.

In handling and in studying the temperature factor in the time-temperature-pressure relationship, the problem must be thought of as one of heat transfer so far as the equipment is concerned. As indicated above, for every seal that is made, regardless of how rapid the successive rate of making the seals, enough heat must be transferred from the sealing mechanism through the packaging material to the inner sealing surfaces to raise the sealing agent to its fusing temperature. Temperatures that are initially high are meaningless. The heat supply must be sufficient to maintain the higher sealing temperature that will insure this flow of heat through to the inner sealing surfaces of each successive package as the seals are made throughout the run. The time-temperature-pressure relationship is not hard to establish, however, particularly if the supplier, who understands his material, and the user, who understands the job he has to do, can cooperate in establishing it.

The mechanics of causing heat seal generally are effected through contact between the material to be sealed and a close-pressing, heated area of metal. Translated into moving machinery, this is done through three types of movement —reciprocal, rotary or sliding.

The simplest form is reciprocal motion and it is exemplified in the common crimp sealer, wherein two heated metal plates are brought together, pressing the areas to be sealed between them. The simplest are manually operated, with time and pressure, and sometimes temperature, left to the experienced judgment of the operator. These are improved with thermostatic heat control and in some machines complete control is given for the whole time-temperature-pressure relationship by thermostatic control of temperature and by

1. This machine forms a continuous tube of transparent sheet, cross seals and crimps, top seals and severs the completely filled packet in one operation. 2. Machine used for sealing Ration K packages. 3. Type of installation for use on laminated foil for dehydrated food. 4. Machine for the wrapping and sealing of bouillon cubes.



actuating the sealing jaws with an electric motor through a drive having adjustments to control time and pressure. Various types of configuration of the sealer surfaces are used by the different manufacturers. Some form of surface configuration usually is desirable, enables a tighter seal and minimizes the slight mechanical difference so sure to occur through the warping of any metal part that is continually kept hot. Surface configuration thus minimizes occurrence of areas of too light pressure between partial areas of the sealer surfaces.

As is usual in packaging machinery, the question of which type of crimp sealer is best is not one to be argued. Rather, the question is how much does the user care to pay for the refinements which will enable closer control over the job that he wants done.

Reciprocal sealing motion is being used increasingly in wrapper and package forming equipment. Certain machines placing liners in cartons make ingenious use of reciprocally moving sealers that travel with the liner forming device. Reciprocal motion also is used in various types of machines making bags that have all seams and seals heat sealed and is not only advantageous, but one of the two forms of sealing motion to which certain heat-sealing agents are limited.

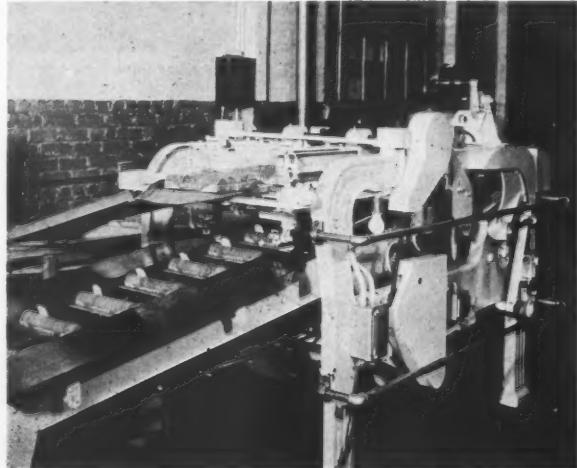
Rotary motion, as the term applies, effects a heat seal by having the layers to be sealed pass beneath a heated roller or between two heated rollers. Here the time factor of the time-temperature-pressure relationship has great effect upon the temperature factor, for the effective sealer area is only the line of tangency (actually a small area) between the surface of the wheel and the plane supporting the material to be sealed or between the two sealing wheels. If the material to be sealed moves by quickly the time allowed for heat transfer becomes very short. This situation is sometimes assisted through the use of pre-heaters which warm the areas to be sealed prior to their entering the sealer contact. Solvent activators find only limited use and then only under favorable conditions, with this type of motion. If they don't actually and obviously help they are worse than if not used at all. This is because under this type of motion the outside of the webs to be sealed sometimes tends to adhere to the wheel and the seal, still soft under the influence of the activator,

gets pulled apart as fast as it gets made and never gets a chance to set up in position. This has been assisted through the use of pressure belts that hold the seal together throughout all the phases of the operation. Actually, this type of seal failure sometimes occurs without the presence of an activator if the material being sealed has as strong a tendency to adhere to the wheel as it has to cohere with itself. Examples of this are found, under certain conditions, in some papers having both sides lacquered and in some machine operations (rather than hand operations) with rubber hydrochloride film. In the case of materials suffering these difficulties, it is not to be assumed that the machine is a failure nor that the material is inadequate. Rather, the functional qualities or the economy of the heat-sealing material or the special advantages of the equipment should be considered and the cost of variations, either of changed operation to balance the time-temperature-pressure relationship or of minor mechanical adaptations of the equipment, should be weighed in the light of accrued advantages in use.

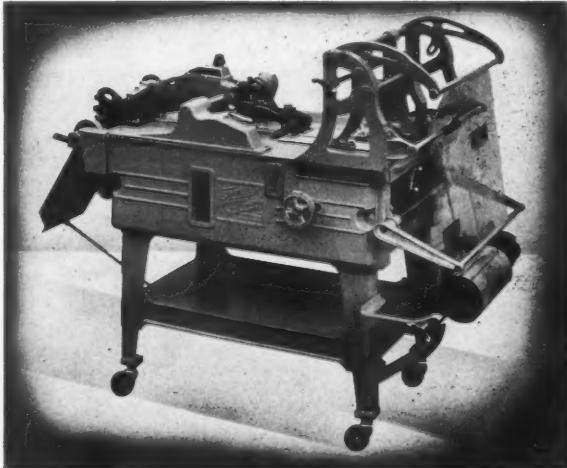
Sliding motion is the most widely used method of heat sealing, being characteristic of almost every wrapping machine that uses heat seal for closure. In the case of the wrapping machine it is obvious, from a simple analysis of the wrap formation, that in order to seal all avenues of entry to or from the package, the wrap must be heat sealing on both its surfaces. This means that heat-sealing material will come into contact with the sealing plates along which the wrap slides as the seal is made. Since a fusible material on being heated first becomes tacky, then reaches its fusing point, there is a tendency for some heat-sealing materials to stick to the sealing plates when there is insufficient heat supply to maintain the proper sealer temperature. There also are certain materials, such as the coatings and films derived from rubber, which cannot be made to seal with sliding motion. In the case of the rubber derivative coatings, none has yet been formulated which will retain its functional qualities, to the best knowledge of the writer, yet slip across a sealer. These coatings, even up to the point of decomposition, still remain so tacky that they will stick to the sealer so tightly that the wrap, after a very few packages are run, is torn from the package. The (Continued on page 116)

5. *Bags are made on this machine. Sheets of the material on rolls pass through the machine and are sealed and formed into bags.* 6. *Wrapping machine with conveyor. Cookies in boots are automatically wrapped and labels are heat sealed on each package.*

5



6





"You Machine Maintenance Men

Are Doing a SWELL JOB"

"Countless man-hours have been added to Pneumatic's production of vital equipment through *your* cooperation. By proper cleaning and scientific lubrication, you have greatly increased the life on every part of your Pneumatic Packaging & Bottling Equipment. In other words, you are reducing the need of replacement parts to a minimum. That gives Pneumatic just that much more time to devote to the manufacture of war equipment.

"Individually, you who are responsible for machine maintenance may not realize the role you are playing in winning the war. But as I see you *collectively*, you're doing a big job.

"When the Pneumatic Equipment you're using in your plant today was designed, we of course did not anticipate this war. But fortunately these machines were designed, engineered, and built to endure tremendously long, hard hours of work.

"Like you, your Pneumatic Machine works best when maintained in top-notch condition. And since you're 'the doctor', it's essential to continue to inspect your Pneumatic Equipment periodically, keep it clean, lubricate it regularly with specified oils and greases.

"It will give you a lift in doing this exacting job to realize that by reducing wear and eliminating breakage, you're giving the boys a real boost on the fighting front.

"So thanks a million . . . and keep up the good work!"

(signed)

"Speed" Production

PNEUMATIC SCALE CORPORATION, Ltd., 71 Newport Avenue, North Quincy, Mass. Branch Offices: New York, Chicago, San Francisco, Los Angeles.

PNEUMATIC
PACKAGING & BOTTLING MACHINERY

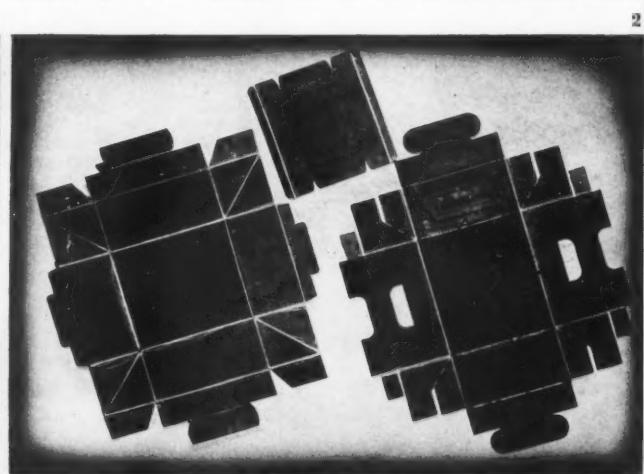
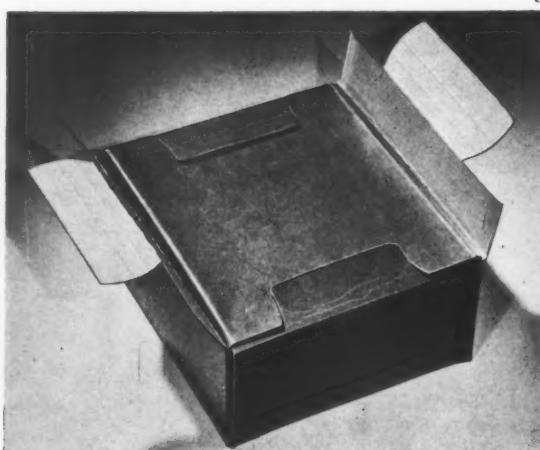
Paper boxes for frozen eggs



If eggs remained in a frozen state, a satisfactory package for them would not be too hard to find even when tinplate is unavailable. But a successful pack for frozen eggs must function efficiently for the baker when the product is in his plant in a de-frosted or liquid state.

Standard Brands developed their present container for this food by trying out a number of packages already on the market. Most of these were composed of a rectangular paper box or round paper can, within which was placed a paper or other type of bag to hold 30 lbs. of liquid. By discovering just why these containers were not suitable for packing and shipping frozen eggs, Standard Brands knew just what they must have in a specially designed container. The carton and bag combinations, or can and bag, proved too slow to assemble or required forms or jigs for the purpose and filling them was also too slow and awkward for the particular product. They wanted to avoid the use of metal stitches and stitching machines if possible and the combination packs examined needed these to make up the bottoms, together with gummed tape and taping machines to close the tops.

Above. This is the way the complete box appears when it is filled with the eggs. 1. The box minus the cover but showing the splash-board in place, which affords additional protection for the product. Notice how the two flaps fit over the splash-board and hold it in position. 2. These three die-cut pieces go to make up the seamless carton. At the left is the bottom, at the right the top and above is the splash-board. Setting up time is shorter than for the tin can formerly used.



Even a rare leaker in a bag caused a great amount of extra handling at the time of filling. When the eggs in the bags were de-frosted, the company found that many of the bags would leak because of handling abuse before the de-frosting. A solid block of frozen eggs within the bag punctured it even with a mild drop. Cold storage, too, over prolonged periods had a tendency to soften the paper bag stock, making it more vulnerable to puncture.

Consequently, Standard Brands together with its container manufacturer collaborated in devising a package that would fulfill the unique needs demanded for packing frozen eggs. In experimenting with fibreboard, they searched for a board that would not soften after 12 to 18 months in cold storage. When removed and brought into a warm atmosphere for de-frosting, condensation on the package is considerable. This additional wet bath makes the lower portions of the outside container so soft that further lifting or handling is impossible. To take care of these requirements, the paper stock chosen would therefore have to be able to withstand this handling when wet.

Test samples made of paper stock with two different treatments were tried out. One sample was heavily rosin-sized throughout and subsequently paraffined on both sides. The other was sized in the same manner, but with an asphalt lamination on both sides. The object of these treatments, of course, is to prevent the absorption of moisture so that even after de-frosting the package will be stable and retain enough strength not only to hold the liquid eggs without leaking but also to allow the handling and pouring.

In addition to moisture resistance and stability when wet, the paperboard had to be a good bender. To form a seamless box, which was the type of box desired, bends of 90 deg. and 180 deg. are necessary and the stock must be capable of allowing this or cracking and rupturing will result.

Of the two, the sized and paraffined stock worked out best. The other sample with asphalt laminations was so stiffened that bending to the required degree was nearly impossible.

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Hand-made test samples were filled and frozen. These performed just about as expected. Following this, several thousand boxes were made by the manufacturer and used for more prolonged tests to determine whether or not any refinements could be made to facilitate setting up, conveying, filling, closing and stacking. Since in planning the package considerable attention was given these points, Standard Brands finds it is getting good function on each of these operations in their present container.

Salient features incorporated in the two-piece, seamless box of 20-lb. capacity are its sized and paraffined kraft paperboard, its special manufacture, storage, ease of operation in production lines, handling and durability. All manufacturing is done on standard die cutting, creasing and scoring presses, which are available. Since there is a minimum of manufacturing operations on the package, the cost is kept low and quick delivery is assured. Box blanks are shipped flat and occupy little space. The space required to accommodate four, 30-lb. egg cans, for instance, or 120 lbs. of eggs will accommodate 162½ seamless cartons, sufficient to pack 3,250 lbs. of eggs. Setting up time is shorter with the two-piece, seamless box than with a slotted corrugated or fibre container or even the round can. It is even faster than the time required for the former tin can used and, in addition, the need for the machine to remove the tin covers and the can stenciling machine has been eliminated. No metal is required for bottom stitches and no gummed tape for top closing which does away with the use of stitching and taping machines. No glued joints are employed. Since the large roller can racks are no longer needed, the men who worked moving these racks now can handle large stocks of flat blanks in a fraction of the time. Women can be used entirely for setting up these boxes and this is a very important consideration at this time. The cover of the box locks on after closing.

Only a slight change has been made in the conveying system to take the boxes from the floor where they are set up to the churn deck. The new conveyors to be installed are constructed entirely of wood and involve no critical materials.

Filling the box is simple. The full side, measuring 10 in. by 12 in., is open for filling. This opening is larger than the former tin can. Die-cut hand-holds in the outside walls give good purchase and make for ease in handling. The

3. *Workers filling the boxes with the liquid eggs. This is simple because the full side is open for filling. 4. Liquid egg also pours easily and readily from the box.*

3



package will stack as high as required in the sharp freezer. The construction stands a compression of 350 lbs. at $\frac{3}{4}$ -in. deflection, which is ample. Approximately 20 per cent more eggs will store in the rectangular package than in the previously used tin container. Because the box is constructed to stack on its large side, the largest areas are presented to quick freezing through the smallest cross-section. Depending upon temperatures in the sharp freezer, the 20-lb. paper container freezes in approximately the same time as the 30-lb. tin. This is of great importance because it was feared at first in switching from tin to a slower freezing paper box, that such a package would dam up every operation behind it on the churn deck and in the break room. But special construction of the paper box and the method of stacking have overcome this disadvantage and speeded up freezing to about the same time as the tin can.

At all points, the new package handles well. Hand-holds are an excellent feature and greatly appreciated in the cold storage room, where the package becomes covered with frost. Since it can be grasped in only one way, it cannot readily be turned upside down.

Time required for thawing the 20-lb. box of frozen eggs is less than the 30-lb. can and this proves of advantage to the baker. He also finds that the liquid egg pours readily from the box, which may be collapsed to squeegee the last of the egg liquid from it. When the baker is finished with the box, he may throw it away for scrap. No problem of disposal is presented. So far, Standard Brands report customers have been very well pleased with the operation of the container and have commented favorably on the ease of handling and the simplicity of the package.

Credit: Developed by Thomas R. Baxter, Standard Brands, Inc., in collaboration with The Gardner-Richardson Co., makers of the box.

4



QUESTIONS and Answers

Gases in food packages

QUESTION: *Are inert gases such as carbon dioxide and nitrogen used in food packages?*

ANSWER: Both carbon dioxide and nitrogen have been used in the packaging of food which is oxidized or affected by air. Also gas packing is effective in preventing insect destruction of foods which cannot be heat-treated. Usually these gases are used in large metal packages which would be unduly stressed by being vacuumized. Glass containers can also be used but other types of containers are not gas tight enough for the longer times of preservation generally necessary.

There are two methods of gas packing, each method attempts to leave the lowest possible amount of air in the package and yet use the least amount of nitrogen or carbon dioxide. In one method, the opened package is vacuumized and then the inert gas is allowed to enter until a slight pressure is created. The other method depends upon the displacement of the air by carefully blowing the gas into the package and the product. With proper equipment and technique, the air content can be reduced to suitable level for many products. However, this latter method is not so efficient or so positive as the other method and is not used when nearly all of the air must be removed. In both cases the package is immediately closed either by soldering, seaming or screwing on a cap or closure.

The choice of whether nitrogen or carbon dioxide should be used depends upon the product. For example, fatty materials absorb carbon dioxide and the result is a partial vacuum which tends to draw in the sides of metal packages. This effect does not occur when nitrogen is used. Either gas is effective in preservation because in high concentration there is no change in the product from oxidation and insects cannot live. However, carbon dioxide is more effective and efficient in destroying insects and their eggs. For this reason gas packing has been very successfully used for many years to pack shelled nuts in all sizes up to 5-gal. square cans. Many of these larger units were shipped in from foreign countries. There are several patents covering specific application apparatus and techniques of gas packing and these should be studied in considering any new uses or applications.

Substitute for metal fruit cake box

QUESTION: *Heretofore I have been packing holiday fruit cakes in a lithographed metal package. What can I use this year?*

ANSWER: An attractive and protective package can be made by using a folding or set-up box with waxed paper or

Address your questions to Charles A. Southwick, Jr., Technical Editor, Modern Packaging, 122 East 42 Street, New York City.

moistureproof grade of cellophane wrapper around the cake. A printed folding carton with corrugated pads or stiffeners should give good physical protection. Also a set-up box either round or square with similar reinforcing would serve equally well. The use of a moisture-vapor resistant box-board (laminated or waxed, etc.) is not recommended because of the added cost, difficulty of procurement and small increase in protection unless the ends are glued or taped.

The moistureproof grade of cellophane or heavy waxed paper (heavy coating of wax) should not be wrapped around the cake until the cake is completely cooled. The wrapper should then be applied to have long overlapped and folded seals and seams for the maximum of moisture protection.

Waterproof package for frozen foods

QUESTION: *Is it necessary to make a waterproof package for frozen foods?*

ANSWER: A frozen food package must be waterproof as well as moisture-vaporproof, although there is not necessarily any relation between these two functions. For example, an end locked, heavily waxed carton may be used and this will contribute appreciably to waterproofness but will not add much to the moisture-vaporproofness. The grades of cellophane and the waxed paper recommended for frozen foods use are both moistureproof and waterproof. Frozen food packages which are not waterproof, that is, made from untreated carton stock or which are so assembled as to leak readily, are very unattractive and messy. Frozen foods are held 0 deg. F. at which temperature the entire product is a solid. However, in some methods of production, the packages are filled with the unfrozen products and in many cases the consumer allows the product to become thawed or liquefied before use. Products such as fruits or berries, which are used with an added syrup or juice, must necessarily be confined in a waterproof inner bag or liner. Other products such as most of the vegetables, meats, fish, etc., contain enough free liquid or juice so that the packaging materials can be stained or softened before freezing.

The free water in vegetables is not very active chemically and its action is usually only to stain or soften the carton or wrapping materials. However, the juice or serum from meats, fish and poultry has very penetrating and softening action and will quickly cause the separation of coating from unanchored cellophane and will very badly stain and discolor any unwaxed or untreated carton stock and papers. Briefly the purpose of using waterproof materials for frozen food packaging is: (1) To maintain the physical strength of the package when the contents are partly or completely thawed; (2) To prevent staining and discoloration the various elements which make up the package.

Someday You'll Want A Finer Metal Package



ALMOST before you are aware of it will come the transition back to normal, peaceful competition. Today, batteries of Heekin high speed lithograph presses are working on metal containers for packaging products needed by this nation for defense. If you have such a product, we can be of service to you. If you have not—remember Heekin Research Laboratories continue their efforts to improve lithography on metal. Someday you'll want a finer metal package . . . when that day comes remember us. In the meantime—Look Ahead.

THE HEEKIN CAN CO., CINCINNATI, OHIO



HEEKIN CANS
Lithographed
WITH HARMONIZED COLORS

T. G. A. promotes voluntary standardization

The principle of voluntary standardization of packages, particularly paper boxes, has already been accepted by a sufficient number of concerns to represent more than half the volume of business done in the toilet goods field and more acceptances are coming in daily. This was announced recently by S. L. Mayham, executive secretary of the Toilet Goods Association, Inc.

The members of this industry, probably of all industries hardest hit in the matter of materials for their products as well as their packages, have adapted themselves to existing conditions cheerfully and courageously and since the opening of the war have made the best of a bad situation. Prior to the recent T. G. A. convention, a bulletin was sent to members, detailing a plan for voluntary curtailment and simplification of box designs. This was accompanied by a form by which the members could signify their acceptance of the plan.

"The standards themselves," said the association bulletin, "are simple and should cause no undue hardship to anyone. It is felt they will result in a considerable saving of paperboard which is now a highly critical material and at the same time permit the manufacturer such leeway in his operations so that there will be no serious interference with the utility and beauty of the packages for which the industry has long been noted."

The simplification plan was the cooperative product of the Container Division of WPB, working with members of the industry and the National Bureau of Standards. The plan is regarded by spokesmen for the industry as a method of conservation potentially as great as stringent orders which might be imposed.

Arrangements were made whereby W. E. Braithwaite of the National Bureau of Standards explained the simplification program at the T. G. A. Convention. Following his talk, acceptances of the plan have been received by T. G. A.'s Secretary Mayham to comprise about 60 per cent of the production capacity of the industry, with additional acceptances being received in every mail. The proposed standards follow:

1. Face and dusting powder boxes

It is recommended that a standard box to hold face or dusting powder be a full telescope box composed of a cover, a base, a drum or powder receptacle and a projecting bottom, constructed without hinges, extra heads, extra lids, padded tops or other extra features, and made from paperboard not to exceed the maximum calipers indicated in the following Tables.

(A) SQUARE OR OBLONG BOXES

Maximum Thickness
of Paperboard
(Inches)

Projecting Bottom Heads.....	0.050
Base or Cover Blanks or Heads.....	0.040
Drum Blanks or Heads.....	0.035

(B) ROUND OR OVAL BOXES

Maximum Thickness of Paperboard (Inches)

Base or Cover	For boxes less than 3" diam.	For boxes 3" but less than 4"	For boxes over 4"	Bottom Fill
Heads	0.035	0.050	0.050	0.080
Base and Cover Sidewalls	0.035	0.045	0.050	—

Maximum Thickness
of Paperboard
(Inches)

Drum Side Walls—

Under 1/2 inch in depth.....	0.040
More than 1/2 inch in depth.....	0.035

NOTE: Snap-in bottom type may have one extra bottom head heavy enough to lock the crimp on the drum.

(C) ALTERNATIVE RECOMMENDATIONS

1. No square, oblong, round, or oval powder box shall contain more paperboard by weight than would be contained in a standard powder box of the same shape and cubic capacity.
2. No odd-shaped powder box shall contain more paper board by weight than would be contained in a standard oblong box of the same cubic capacity.
3. Boxes may be either in individual folding cartons or in containers of not less than 6 boxes but not in both.

2. Set boxes

It is recommended that set boxes to contain two or more assorted items of toiletries or cosmetics be restricted in size and use as follows:

The inside square area shall not be more than 150 per cent of the square area of the items packed, computed as follows: The length of the longest item multiplied by the minimum combined width of all items laid side by side (touching and flat) and faced up as they will lie in the box.

The outside depth of the box shall not be more than 1 in. deeper than the depth of the thickest item to be packed faced up as it will lie in the box.

No box shall have more than one flat extension edge. (No built-in extension allowed.)

Folding boxes shall not be used on items packed in set boxes except as a protection for collapsible tubes.

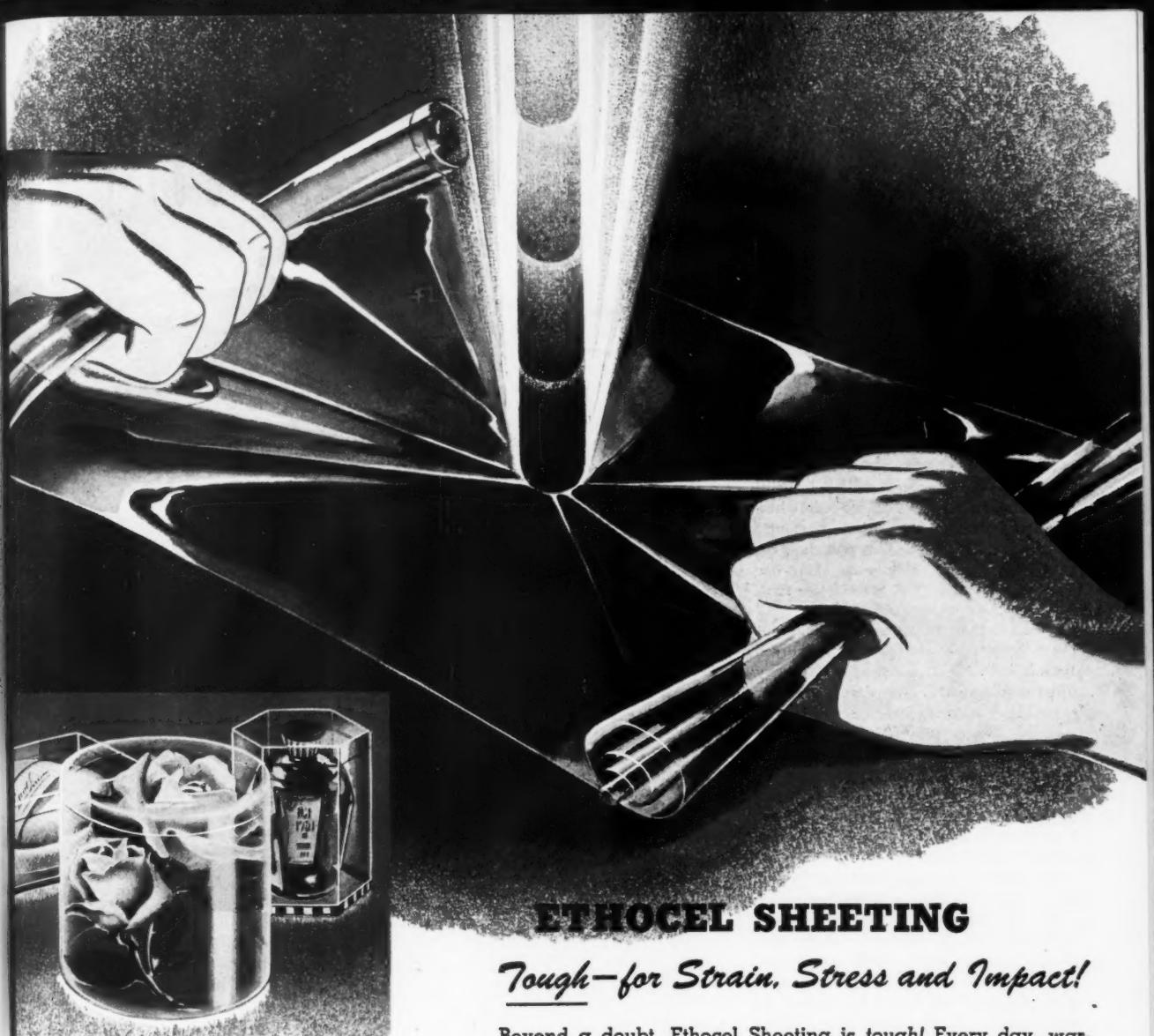
Only one protective cover shall be used on any set box and this shall not be a corrugated container unless the box with contents weighs more than 10 lbs. each.

3. Perfume, toilet water and cologne boxes

It is recommended that no box for packaging an individual bottle of perfume, toilet water or cologne shall be made with outside dimensions more than 1 in. longer, wider, or deeper than the bottle at its widest point in each dimension.

That no box shall be made with more than one flat projecting edge. (No built-up extension allowed.)

That no box shall have (Continued on page 125)



**PEACETIME PACKAGES—
MADE STRONGER!**

Manufacturers and users of pre-war packages selected Ethocel Sheeting whenever a tougher rigid transparent sheeting was required. This same quality of toughness, today exclusively at work on war jobs, will make stronger, gleaming, "sales-getting" packages when Victory is won. Packaging planners, who have accomplished wartime packaging miracles with substitute materials, will no doubt again take advantage of Ethocel Sheeting's many outstanding features in designing containers for the products our War Bonds will buy.

ETHOCEL SHEETING

Tough—for Strain, Stress and Impact!

Beyond a doubt, Ethocel Sheeting is tough! Every day, wartime uses are confirming the fact that it endures punishment to an extent far surpassing other rigid transparent sheetings. At torrid tropic temperatures or even arctic cold, Ethocel Sheeting remains strong and pliable.

This durability and toughness are inherent in ethylcellulose. Ethocel Sheeting does not rely upon plasticizers for its ability to withstand scoring and folding without breaking or tearing. Scoring and even folding through a beaded edge are thus made possible.

Ethocel Sheeting is readily fabricated in many forms—by drawing, cementing, sewing, stapling or riveting. These features, plus easy printability, will make it an economical favorite for post-war packaging.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

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ETHOCEL

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WASHINGTON REVIEW

by R. L. Van Boskirk

● **Test Your Own Ideas**—Container officials in WPB are constantly beset with examples of containers that the designer thinks are perfect, but which have never been tested. The producer comes forth with a brilliant sales talk or a 4-page brochure telling how wonderful the product is, but frequently has no proof of testing that will show actual performance. If it leaks along one side he may say, "Oh, we can fix that. Just look how wonderful it is otherwise." The fact is that the government dare not even consider the container until proved that it won't leak and will meet every other requirement. Words are no test for a container carrying overseas goods that may be subject to rough handling and rougher weather. In fact, the producer is just as obligated to point out the weak points as the strong points. It might well be that someone in the government knows how to overcome the weak points and all parties would benefit.

It is difficult and unpleasant for everyone concerned when a new container idea is submitted without factual information or indicative data. WPB officials are glad to give help and try to define a container problem, but it is difficult to give the complete picture of what must be expected in performance. When a contractor is given this information he must then come back with actual test data—what they were, the results, form of package and the materials that went into it. The government must know how it performs in heat or cold or under severe abuse. The container must meet the defined requirements before it can be accepted for trial.

If the contractor provides all this information and the tests show favorable action under the defined job, there is still no telling how it will meet the actual strain of overseas handling. For this reason, contractors with new ideas are requested to give them actual experience in domestic handling. In urgent cases it is sometimes possible to give trial in overseas shipment, but it is obvious that men handling goods on foreign shores have their own supply problems without the extra burden of keeping records on trial shipments.

It is also obvious that it would be impossible for the government to make laboratory tests on every submitted idea. There are too many other things to do. Therefore, the contractor himself must

make the test and submit evidence showing actual and specific results.

It is equally obvious that in any test, some currently specified or standard material or container should be included so that performance can be compared with the new product.

If the test in comparison with an old container and the new one seems just as good, it is reasonable to believe that the new product is satisfactory, but time after time the just-as-good new container has failed, and the government simply will not take chances until the new container has been tried by actual experience.

Here are the four principal requirements:

1. Container must have the protective requirements that the inside product requires.
2. Must be durable enough to stand rough shipping, bad weather and all degrees of pilferage, including deliberate dropping by handlers so that contents will fall out.
3. Availability of material—many fine containers have been turned down not because of quality, but because they were not enough better to require the use of the critical material involved.
4. By the same token, conservation must be measured in terms of usability of contents upon their arrival overseas. For this reason it has happened that untried containers, or "almost-as-good" containers, using somewhat less critical material than specified containers, have not been adopted. This was not because there was no desire to save critical materials, but rather because it was felt that the savings represented did not equal the loss of shipping space nor the loss of usable material that would occur had the alternate container failed en route.

● **WFA Takes Over M-81 Administration**—Under terms of an agreement between the War Food Administration and WPB, Glenn Knaub of WFA will hereafter administer Conservation Order M-81 insofar as cans for food are concerned. The order was formerly administered under the Containers Branch of WPB. Under the pressure of continuously heavier overseas food shipments, WFA officials wanted to tie in more closely with the WPB Containers Division. Mr. Knaub's

office is now in building "S" along with the Containers section of WPB where he can help expedite the handling of appeals and simplify issuance of orders and amendments to meet changing food conditions.

WFA will have full authority over appeals involving metal food cans, but advises that they be sent direct to WPB where they will immediately come to Mr. Knaub's attention. Other WFA consultants in connection with conservation, limitation and preference rating orders dealing with food packaging will be assigned to WPB's Containers Division.

Robert S. Solinsky, Chief of the Metal Can and Tube Section, WPB, will continue to administer the portion of Conservation Order M-81 dealing with cans for non-food products such as oil and chemicals, Roswell C. Mower, Director of the Containers Division, announced.

● **Restrictions on Frozen Food Containers Eliminated**—Because of confusion in the trade, restrictions imposed by Limitation Order L-239 on the manufacture of paper boxes for packaging frozen foods were removed by an amendment dated May 8. Under the original order, paperboard used for packaging frozen foods was restricted to specified thickness. Frozen food processors have been using so many varieties of packages and sizes that it was practically impossible to comply with the order. Some used an inner bag and, therefore, did not require the same thickness for an outside container as those who used only the one container. Different materials were used by different packers. Those who packed in 5-lb. packages didn't require the same weight as those who packed in 20-lb. packages. As a result of all the confusion, WPB decided to eliminate all restrictions and permit processors to continue as they had been doing in the past, until new, standard specifications can be worked out, which may be at least 6 months in the future.

● **Packaged Cosmetic Price Ceiling**—Cosmetics manufacturers can now determine prices for new and changed packaged goods without applying to OPA for issuance of individual price orders for each product under MPR-393 as amended May 12. The new order provides that changes in containers or packaging may be made



Facial for Footwear!

Now that shoes are rationed, people are taking better care of the ones they have.

A favorite product for this purpose is KA-BO Waterproof Wax Shoe Polish, manufactured by Wilkey Laboratories, Inc., Chicago, Illinois.

Because of the shortage of more critical materials, KA-BO is now packed in sturdy glass containers —attractively sealed with Crown Screw Caps.

Other manufacturers, faced with the necessity of changing packaging materials for the duration, will be glad to learn that Crown Closures—in a wide variety of types and sizes—are now obtainable for wartime use.

CROWN CORK & SEAL COMPANY

World's Largest Makers of Closures

for Glass Containers

BALTIMORE, MD.

KA-BO Shoe Polish comes in Ox Blood, Brown, Black and Tan-Neutral.

CROWN CLOSURES

CROWN'S WARTIME POLICY: To supply closures, containers and services for packaging foods, beverages, chemicals, etc., needed by civilians and the armed forces. To build an ever-increasing volume of vitally needed weapons of war for our fighting men.

without changing prices and that the maximum retail or professional price must be marked on packages by manufacturers where they determine resellers' prices, except in the case of gifts.

● **Glass Container Prices Rolled Back**—The prices of wide-mouth glass containers were rolled back by the issuance of MPR-382, amended May 12, to the level that prevailed July 1, 1941, and replaced current ceilings which reflected October 1941 levels. The new price is a reduction of 5 per cent from current eastern prices and 7.5 per cent from western prices. New prices became effective May 27.

Special provisions cover new standardized containers—first offered for sale in February 1942—any glass containers sold in new types of cartons. However, no new type may be offered for sale under the new regulation until a maximum price has been specifically approved by OPA. Manufacturers will be required to apply to OPA for price authorization on all containers which vary above or below the regulation's listed specification for maximum height, weight and finish dimensions by more than the largest percentage of variation shown during the 6 months preceding July 1, 1941. OPA claims this regulation will save consumers \$4,000,000 in food costs.

● **Packaged Drug Ceiling**—The packaged drug industry was given a new price regulation similar to that for the cosmetic industry through issuance MPR-392 as amended May 12. The regulation requires a printed retail ceiling price on the package of each new and changed proprietary medicine and permits the maximum price to remain the same on a reduced size package provided the reduction is less than 3 per cent.

● **Essential Occupations**—Amendment of several Selective Service Occupational bulletins was announced May 12. The bulletin on "Production of Pulp, Paper, and Materials for Packing and Shipping Products" designated as Activity and Occupational Bulletin No. 27, and originally entitled "Production of Materials for Packing and Shipping Products" now lists as essential activities: production of pulp made from pulpwood and other substances, certain types of paper stock and paperboard and various converted products from paper and paperboard and other materials for shipping and preserving essential products.

● **Aluminum**—WPB officials have vigorously denied that aluminum might soon become available for aluminum foil for packaging purposes. The denial was given as a result of a query asking whether or not more aluminum would be available as a result of the proposed plan to slightly curtail airplane production.

● **Manufacture of Containers**—Materials required for the manufacture of containers, in either knock-down or set-up form, are production materials and cannot be obtained under the procedures established by CMP Regulation No. 5, according to Interpretation No. 4, issued May 8.

The Maintenance, Repair, and Operating Supply procedures may not be used to obtain materials for the manufacture of containers, regardless of whether the manufacturer makes them for sale to others, or in a captive plant or separate department, for packaging his own products for shipment or delivery. However, material other than fabricated containers, needed to package a product for shipment or delivery, may be acquired by the manufacturer of the product under CMP Regulation No. 5, where a captive plant or separate department, whose operations are substantially similar to those of the container manufacturer, is not maintained. In other words, the manufacturer who crates his product for shipment, but who does not maintain a separate department operating as a manufacturer of crates, may obtain the lumber, nails and other materials required in preparing his product for shipment or delivery.

● **Kraft Paper Prices**—The recent \$5 per ton increase in price granted to manufacturers of kraft wrapping and bag papers does not apply to any grades of kraft paper other than those specifically mentioned in MPR No. 182. This regulation covers definitely specified kraft wrapping papers and bag papers. All other kraft papers, including such converting grades as gumming kraft, envelope kraft, coin wraps, tire wraps, etc., have never been under MPR No. 182, but they are under MPR No. 129, which freezes maximum prices as of October 1-15, 1941. Any increase in the prices of these kraft papers is clearly a violation of MPR No. 129.

● **Wood Pulp Tonnage Withheld**—In view of the shortage of several essential types of wood pulp, particularly unbleached kraft (sulphate), inventories of which grade of pulp are now reduced to a twenty-day basis, all producers of wood pulp have been ordered by the War Production Board to withhold 20 per cent of their production of all types of wood pulp during the month of June and each month thereafter and to make deliveries of such withheld tonnage only as ordered by WPB. The "withholding clause" of General Preference Order M-93 was invoked through the issuance of Supplementary General Preference Order M-93-a, effective May 4, to assure the manufacture of adequate paper and paperboard to meet wartime demands from available wood pulp.

The Pulp and Paper Division of WPB announced that in the allocation of wood pulp for June shipment it will be necessary to withhold pulp from less essential paper products in order to provide pulp for the

manufacture of relatively more essential paper products and to meet lend-lease and Latin American obligations. In many cases, however, all or most of the withheld wood pulp will be allocated back to the producer, when Form PD-292 is returned. Producers will receive instructions as to the disposal of withheld tonnage in ample time for them to plan their deliveries accordingly. The power to allocate such withheld tonnage will be used only to provide for the safeguarding of production which is considered important to the war effort.

● **Paperboard Sales Records**—Producers of paperboard sold east of the Rocky Mountains and their customers must preserve their records of sales or purchases of paperboard aggregating 10 tons or more for as long as the Emergency Price Control Act of 1942 remains in effect according to Amendment No. 5 to Revised Price Schedule 32, effective May 10.

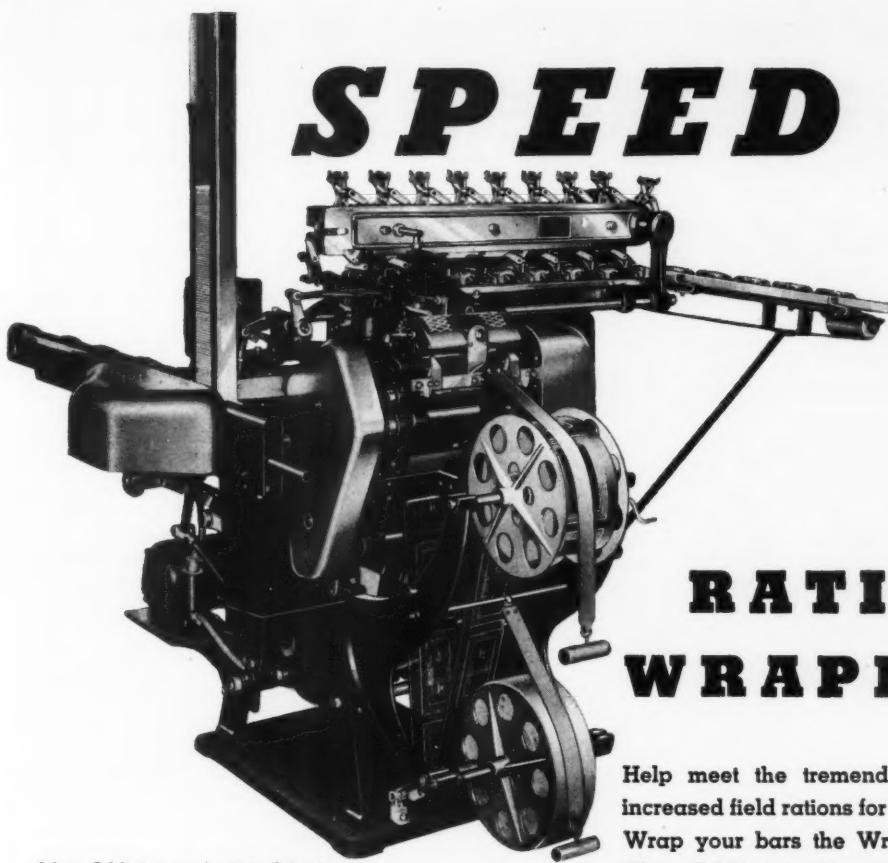
● **Allocation of Burlap Imports**—Through Conservation Order M-47, as amended, effective May 1, WPB has ordered the allocation of burlap imports to bag manufacturers for the purpose of manufacturing textile bags as defined in Conservation Order M-221, issued November 3, 1942. M-47 provides a quota for each manufacturer on a basis of the quantity of burlap he used in 1939 and 1940. WPB will assign to each bag manufacturer Free Burlap Quota Certificates specifying the quantities which may be purchased during any period.

● **Personnel Changes**—R. J. Zaumeyer, who is associated with the Kimberly-Clark Corp. of Neenah, Wis., succeeds John G. Strange as Chief of the War Products Development Section, Pulp and Paper Division, War Production Board. Mr. Strange will return to his duties as Secretary of the Institute of Paper Chemistry, at Appleton, Wis., but will continue to serve as a consultant to the section on the development of some of the 40 special paper projects designed to meet war requirements.

R. C. Spencer of the Lowe Paper Co. of Ridgefield, N.J., has been appointed Deputy Chief of Section, replacing Herman Whitmore, who returns to active duty with the Robert Gair Co. of New York. Mr. Spencer will spend considerable time with the Quartermaster General's Office helping to develop new and varied uses for paper. His work will be similar to that of Fred Barber in the Navy Department.

Russell Savage of the Mead Corp. has also joined the section as a consultant on impervious papers.

● **Glass Container Production in 1943**—Production of glass containers in 1943 can be increased by approximately 8 per cent over that in 1942, (Continued on page 123)

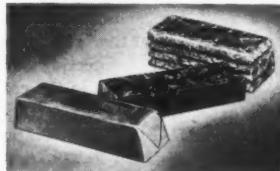


Wrap-O-Matics are built in 2 basic models—Side-intake (illustrated) for feeding directly from enrober belt . . . straight-intake especially designed for 2 or 3 piece bars.

Help meet the tremendous demand for increased field rations for our fighting men. Wrap your bars the Wrap-O-Matic way. Wrap-O-Matic is the engineering marvel for wrapping Army rations and soft or irregularly shaped candy bars. It wraps at high speed (90 to 120 units per minute) with or without liners . . . with glassine, cellulose, the new heat sealing papers, or any type of wrapper that can be printed in rolls.

Speed up your production of K1's—K2's—fruit bars, chocolate bars or candy bars and at the same time economize on material and labor. Wrap-O-Matic saves up to 35% in wrapper costs and up to 75% in labor costs . . . a vital factor in today's manpower shortage.

Investigate Wrap-O-Matic . . . accept our invitation to have our engineers survey your wrapping problem. Write today for details of how Wrap-O-Matic will increase your production.



Army rations . . . wrapped by Wrap-O-Matic. Illustrated are K-2 Biscuits, 2 ounce "D" Ration Bar and Mixed Fruit Bar.

WRAP-O-MATIC DIVISION

L Y N C H

Manufacturing Corporation
DEFIANCE - OHIO U.S.A.

U. S. patent digest

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 10 cents each.

EGG CONTAINER. H. M. Kieckhefer (to Kieckhefer Container Co., Delair, N. J.). U. S. 2,315,624, Apr. 6. An egg container having walls of fibreboard or the like, means including spaced flats and intervening compartments within the container for supporting and protecting eggs for shipment, with cuts in at least one of said walls forming the outline for a ventilation hole.

CONTAINER. R. Nyden (to F. N. Burt Co., Inc., Buffalo, N. Y.). U. S. 2,315,647, Apr. 6. A container having two complementary body members, one of which is outwardly domed at its central portion and has a marginal outwardly extending flat peripheral reinforcing flange and the other of which is provided a side wall extending therearound and having an interior surface extending around the interior.

CONTAINER. R. Nyden (to F. N. Burt Co., Inc., Buffalo, N. Y.). U. S. 2,315,648, Apr. 6. A container with two complementary body portions each having a receiving compartment, side walls having inner surfaces surrounding said receiving compartments, a multi-compartment tray positioned in the receiving compartment of one of said body portions.

TWO COMPARTMENT CONTAINER. W. W. Crouch (to Eastman Kodak Co., Rochester, N. Y.). U. S. 2,315,938, Apr. 6. A two compartment can adapted to contain two ingredients, one in one compartment and other in a second compartment, the combination with an outer container including a pair of spaced end walls at least one of which walls is adapted for removal.

DISPLAY BOX. C. B. Holm (to International Braid Co., a corporation of Massachusetts). U. S. 2,315,999, Apr. 6. A rectangular display box having bottom wall and upstanding side and end walls of equal width throughout length and a top wall provided with a centrally located opening therein, said side wall being slit at opposite points intermediate their ends.

HOLDER FOR EGGS OR THE LIKE. J. L. Coyle, London, Ontario, (to L. Benoit, New York, N. Y.). U. S. 2,316,050, Apr. 6. A holder for eggs or the like wherein is combined a plurality of spaced one-piece vertical parallel cross walls each provided with registering pairs of

slots spaced apart a fixed distance and extending inwardly from its bottom edge.

CONTAINER. R. C. Taylor (to American Can Co., New York, N. Y.). U. S. 2,315,563, Apr. 6. A sealed sanitary re-closure container adapted to be opened by a cutting tool without contacting the container contents.

SHIPPING CONTAINER. L. V. Lucia and E. W. Horndahl (to E. G. Hellyar, Norwich, Conn.). U. S. 2,315,532, Apr. 6. A cloth winding rack comprising slotted end members and plates having a plurality of hooks one of said plates being releasably secured in each of the slots of said end members with the hooks projecting inwardly in said rack.

POWDER CONTAINER. J. W. McCarty and H. C. Holly (to F. N. Burt Co., Inc., Buffalo, N. Y.). U. S. 2,315,635, Apr. 6. A container with material receiving part having an enclosing side wall and comprising longitudinally extending side members with cross farm member near each end of said side members with keeper and tongue connection between each end of the cross members.

CONTAINER. E. D. Abramson (to Central States Paper & Bag Co., St. Louis, Mo.). U. S. 2,316,385, Apr. 13. An open-mouthed pinch-bottom bellows type bag having an inner moisture resistant liner jacket and an outer covering jacket telescopically interfitted and secured together in the formation of a plurally open-ended tube.

PACKAGE COVER. J. T. Wright (to The William E. Wright & Sons Co., of New Jersey). U. S. 2,316,657, Apr. 13. A cover for a hank of ribbon or like material comprising sheet stock of resilient transparent material, permanently set to provide right angularly disposed enclosing walls and provided with a longitudinally extending split for spreading of the walls for reception of ribbon.

REINFORCED BAG. J. F. Ames, Selma, Ala. U. S. 2,316,658, Apr. 13. A bag composed of paper having in combination a strip of fabric, said strip having a part thereof attached to the lower part of each portion of the paper bag.

BOTTLE HOLDER. H. K. Powell (to Morris Paper Mills, Chicago, Ill.). U. S.

2,316,186, Apr. 13. A container for carrying bottles or the like being formed of sheet material and adapted to be collapsed to flattened form.

DISPENSING DEVICE. A. Hammerstein, Great Neck, N. Y. U. S. 2,316,516, Apr. 13. A dispenser for comminuted materials; the combination of a rigid container having an open end and adapted to contain a supply of the comminuted material to be dispensed therefrom, a dispensing device connected with said container and projecting beyond the open end of said container to normally constitute the seal and closure for the open end thereof.

PAPER BOX. H. B. Royce, Birmingham, Mich. U. S. 2,316,457, Apr. 13. A box formed from paper or the like comprising separable and identical top and bottom sections, each of said sections comprising a main portion forming the top of the box in the upper of said sections and the bottom of the box in the lower.

CARDBOARD BOX. H. A. Triplett (to Schweitzer & Conrad, Inc., Chicago, Ill.). U. S. 2,316,469, Apr. 13. A cardboard sheet having panels adapted to define the walls of the box including a front wall and end walls, each end wall carrying an attachment flap which overlaps the front wall.

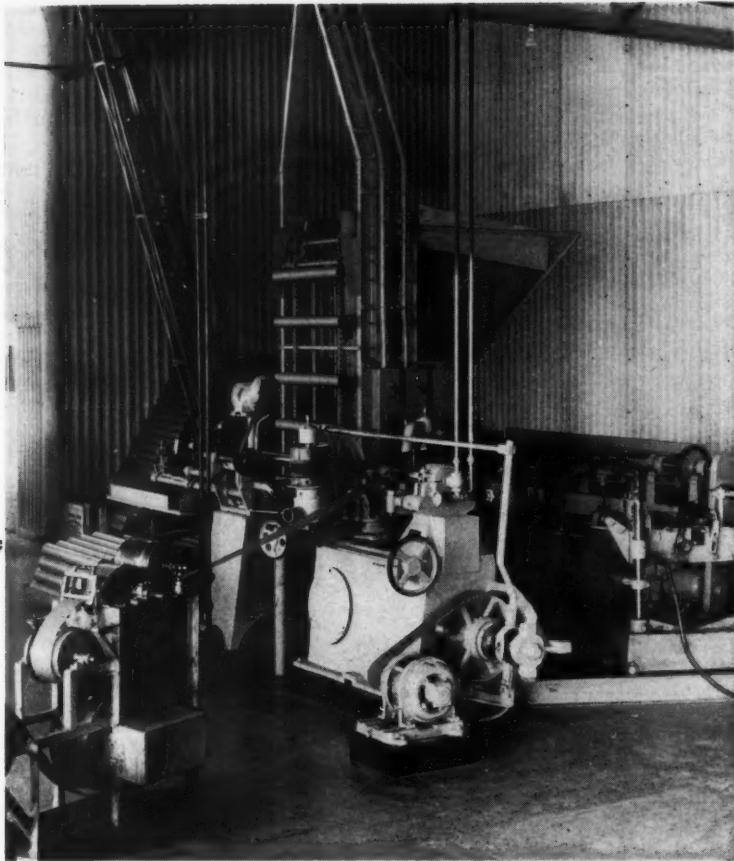
CONTAINER. H. E. Knaust (to Vita Sales Corp., St. Louis, Mo.). U. S. 2,316,067, Apr. 20. A container-lid comprising a body-member shaped and contoured so as to fit closurewise a particular container.

TIN CAN CONTAINER. S. Musher (to Musher Foundation, Inc., New York, N. Y.). U. S. 2,316,804, Apr. 20. A tin can container carrying on the inner surfaces a very thin film of only a viscous, oil, alcohol free, alcoholic extract of finely divided vegetative substance capable of substantially protecting oxidizable organic compositions in the container.

CONTAINER. H. F. Water, New York, N. Y. U. S. 2,316,919, Apr. 20. A flat folded carton having at least four parallel fold lines which define a pair of opposed main panels and another pair of opposed main panels.

BAG FEEDING MECHANISM. E. E. West, Richmond, Va. U. S. 2,316,922, Apr. 20. In a machine having bag holding arms, a roll of hemmed bags, a substantially horizontally disposed bag feeding carriage for horizontally feeding hemmed bags from said roll to said bag holding arms.

COSMETIC CONTAINER. F. R. Reutter (to Scovill Mfg. Co., Waterbury,



SPIRAL WOUND ROUND PAPER CAN MAKING MACHINES

Since the beginning of the war, we have built and furnished many manufacturers with round paper can equipment, helping them to convert from vital tin to paper cans. If you are producing necessary foods, or direct war commodities, our vast experience in production and packaging problems will help you speed up your methods.

Illustrated above, Spiral Tube Winder—Cut-Off Saw—Elevator and Storage—Automatic Tube Cutter—Upender—Connecting Conveyors, etc. This PACKOMATIC Equipment forms spiral wound tubes from roll stock and cuts the tubes into individual can bodies. We can also furnish Automatic Capers, Cap Presses, Cap Gluers, Horizontal and Vertical Shrinkers, Labelers, Fillers, etc.

We have served hundreds of manufacturers and packers, and will gladly confer with you on your particular problems. All negotiations are strictly confidential.

PACKOMATIC Case Sealers will handle full range of "V" cases.

PACKOMATIC Case Printers will print both ends of "V" cases or sleeves.

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PACKAGING MACHINERY

J. L. FERGUSON COMPANY, JOLIET, ILLINOIS

REPRESENTED IN ALL PRINCIPAL CITIES

Conn.). U. S. 2,318,087, Apr. 20. The combination of a container body having a longitudinal slot and an open end, a carrier movable to and fro in said body, an operating member on the cup extending through said slot and forming one edge of crosswise of said slot and forming one edge of an angular V-shaped slot.

DISPLAY BOX. M. Kurhan, Brookline, Mass. U. S. 2,317,203, Apr. 20. A display box comprising a box body, a cover telescoping thereon and a hinge member interconnecting the box and its cover.

END FLAP CONSTRUCTION FOR CARDBOARD CONTAINERS. G. Rottman, Brooklyn, N. Y. U. S. 2,317,223, Apr. 20. A box having an end closure comprising four sides and four end flaps each integrally connected to its adjoining end flaps along fold lines.

CONTAINER. C. J. R. Hammarstrom, Richmond Hills, N. Y. U. S. 2,317,269, Apr. 20. A container consisting of a hollow body open at one end and a cover which fits on the open end portion of said body, said cover having a resilient extension on one end and a second separate extension on one side overlying one side wall of said body.

ENVELOPE. H. M. Whitman (to Curtis 1000, Inc., Hartford, Conn.). U. S. 2,317,335, Apr. 20. A return mailing envelope formed from a single elongated blank, comprising a central panel, panels extending from the opposite longitudinal edges of said central panel, fold lines at the longitudinal margins of said panels, and a line of perforations on said central panel adjacent one of the longitudinal edges, and gum flaps extending from the end edges.

PACKAGING MACHINE. S. R. Howard (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U. S. 2,316,867, Apr. 20. A packaging machine combining a continuously moving carrier provided with a plurality of carton holding pockets.

DISPLAY APPARATUS. R. C. Adams and H. H. Woodworth (to The Sherwin-Williams Co., Cleveland, Ohio). U. S. 2,317,336, Apr. 20. A display device having a plurality of strips of sheet material each having sections representing different wall finishes, means supporting said strips with marginal portions thereof extending in contiguous relation with the strips.

DISPLAY CABINET. R. C. Adams and H. H. Woodworth (to The Sherwin-Williams Co., Cleveland, Ohio). U. S. 2,317,337, Apr. 20. A display device consisting of a cabinet having a recess extending laterally thereinto and having sides defined by two intersecting upright walls, a pair of rollers associated with each of

said walls, a strip of sheet material extending in front of each wall and having its ends connected with the winding rollers associated with such wall.

PAPERBOARD CONTAINER. D. Bensel (to American Can Co., New York, N. Y.). U. S. 2,317,355, Apr. 27. A paperboard container for liquids comprising connected side wall panels; having end flaps sealingly adhered to form a top closure wall joined to said panels and having therein near a corner thereof a filling and pouring opening.

CONTAINER. J. M. Hothersall (to American Can Co., New York, N. Y.). U. S. 2,317,381, Apr. 27. A tamper-proof fibre container for liquids comprising a tubular fibre body substantially square cross section having a fibre top end member adhesively secured to an end thereof in an outwardly projecting seam joint overhanging the upper end of said body.

BOTTLE PACKAGE. A. H. Risch (to Pulp Reproduction Co., Milwaukee, Wis.). U. S. 2,317,554, Apr. 27. Combining a bottle, a hollow rigid receptacle, aforesaid bottle having an outer annular surface and being provided with an upper integral inwardly directed flange defining an opening of approximately the same diameter as the body of the bottle.

RECEPTACLE. R. C. Talbot (to Wright's Automatic Tobacco Packing Machine Co., Durham, N. C.). U. S. 2,317,651, Apr. 27. A receptacle comprising a carton having a body and transversely foldable top closing flaps, an inner liner therein composed of air and moisture-proof material closed and sealed at its lower end and terminating at its upper end in the plane of the fold lines of said flap.

CAN MAKING MACHINE. F. Krueger (to E. W. Bliss Co., Brooklyn, N. Y.). U. S. 2,317,919, Apr. 27. An apparatus adapted to form flat blanks into container bodies.

ENVELOPE. A. M. Thompson (to Gaw-O'Hara Envelope Co., Chicago, Ill.). U. S. 2,317,497, Apr. 27. An envelope comprising a front wall defined by fold lines and provided with a window adjacent one end thereof.

TAB TAPE. N. I. Fleischer (to The Fleischer Mills, Inc., Cincinnati, Ohio). U. S. 2,317,899. A fabric label tape in the form of a continuous length of tape which is subdivided in a plurality of similar consecutive sections the endmost of which is severable from the tape in response to an oblique pull applied to the endmost section.

LABEL DISPENSER. R. S. Avery, Los Angeles, Calif. U. S. 2,317,576, Apr. 27.

The method of removing the backing from labels attached to the backing by pressure sensitive adhesive which comprises drawing the backing over a transversely arched relatively sharp edge, thus peeling the backing from the label.

METHOD AND APPARATUS FOR PRODUCING AND DISPENSING SANITARY MOUTHPIECES FOR BOTTLES. W. M. Schnieder, Oak Park, Ill. U. S. 2,317,408, Apr. 27. A method of applying sanitary mouthpieces to bottles for drinking purposes consisting of taking a preformed annular freely open ended body in the shape of a frustum of a cone, dropping the same around the bottle mouth to frictionally engage externally thereon.

CALENDER AND PROCESS FOR MAKING PLASTIC SHEETS. D. Domizi (to Carbide & Carbon Co., New York, N. Y.). U. S. 2,317,447, Apr. 27. A calender for forming plastic sheets of uniform thickness from a bank of un-sheeted plastic material.

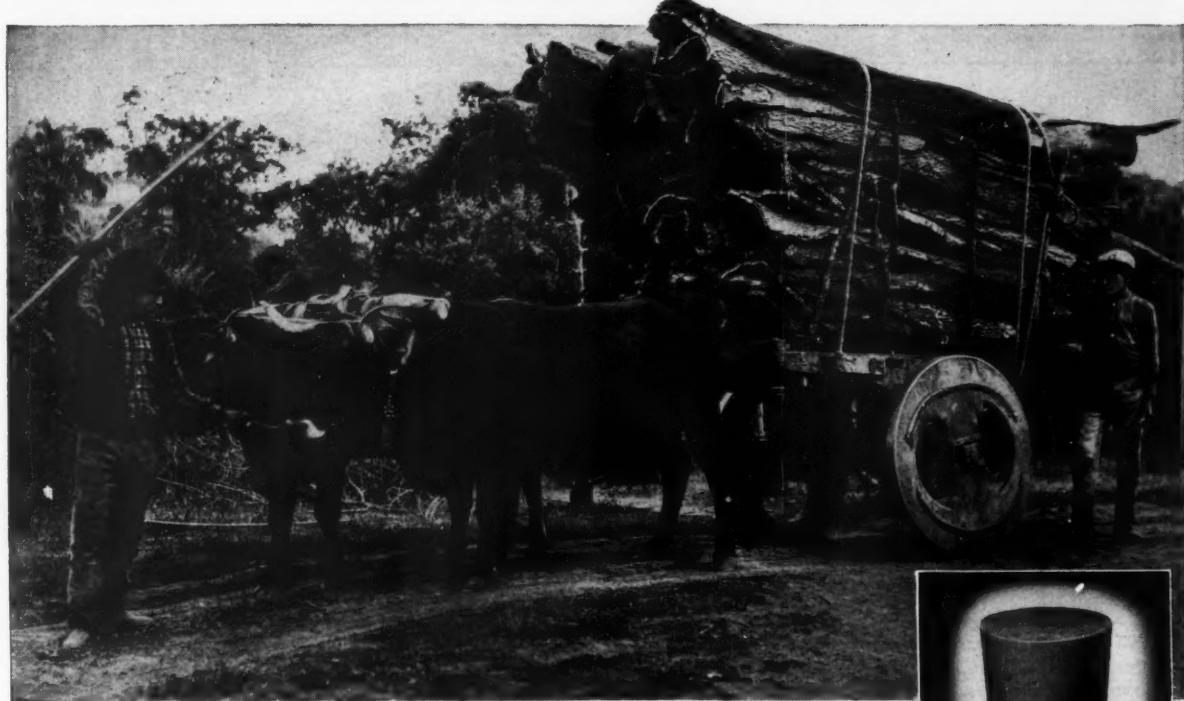
PACKAGE HANDLE. W. J. Kitchen, New York, N. Y. U. S. 2,317,535, Apr. 27. A package handle comprising a tubular member, a pair of parallel pivot pins on the ends of said tubular member, a pair of similar, symmetrically disposed hooks pivoted on said pivot pins, said tubular member being formed with slots aligned with the hooks to permit the hooks to be swung into said tubular member.

CONTAINER. W. E. Taylor (to American Co., New York, N. Y.). U. S. 2,317,420, Apr. 27. A pouring spout and cap combination for dispensing containers, comprising a threaded spout and a threaded cap therefor, said spout having a break-off weakened part adjacent its outer end terminating in an enlarged portion of increased thickness.

CONTAINER SEALING. J. P. Kavanaugh (to Kieckhefer Container Co., Delair, N. J.). U. S. 2,317,773, Apr. 27. In a container formed of paperboard or the like, a flap portion adapted to be adhesively secured to another container portion when the container is sealed, one of said portions having areas which are relatively raised and depressed in the surface to be juxtaposed to the other portion, whereby adhesive union with the depressed areas will be prevented or retarded and whereby good adhesion union can be effected only with the raised areas.

METHOD OF LINING CAN ENDS. J. M. Hothersall (to American Can Co., New York, N. Y.). U. S. 2,313,750, Mar. 18. A method of lining can ends comprising flowing in molten form a thermoplastic lining compound containing no volatile solvents.

CORK • FOR SAFETY IN SEALING



Native transportation of freshly stripped cork from the cork forests in Portugal.

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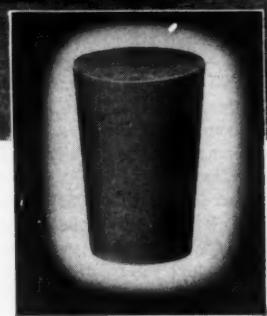
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Equipment and Materials



EGG CARTON

The Saf-Eg carton, now manufactured by Sutherland Paper Co., Kalamazoo, Mich., is an improvement over its former package, the company announces. It is a 2 in. by 6 in. cushion egg carton and is exceptionally sturdy. It has a rigid center support extending the full length of the carton and double thickness reinforces the front and rear walls. Extra strength at these points is needed, especially when cartons are stacked or packed in 30 doz. shipping cases. The carton is made in hand set-up and machine set-up styles. Either type may be had with solid top or in the twin-six model which splits lengthwise for half-dozen sales. Each section of the twin-six style is a carton in itself, printed with complete package design and copy.

TIE-UP TAPE

An all-purpose tying tape is made by Economy Novelty & Printing Co., New York City, which may be used for gift wrapping, in laundries, tobacconists, haberdasheries, women's specialty shops and as parcel carrying handles for small packages, where it is used in conjunction with gummed tape. The tape comes in many designs and colors and may be obtained either printed or plain.

PORTABLE CONVEYORS

A recent bulletin of The Jeffrey Mfg. Co., Columbus, Ohio, describes the company's portable stackers and conveyors for storage and warehouse service. Types are fully illustrated and specifications are given for flat belt stacker, wood apron stacker, wood apron stacker with jointed boom and the horizontal sectional flat belt conveyor which handles boxes, crates, bags, etc., weighing up to 325 lbs.

DECALS INSTEAD OF METAL

Two new tough and wear resistant decalcomania nameplates, which permit quick, permanent application to raw, polished or crinkle-finished metal surfaces are being manufactured by The Meyercord Co., Chicago. These decals are being used now by manufacturers of communication and navigation equipment. They have been subjected to surface and temperature tests and have been found to be successful on various types of equipment for the U. S. Signal Corps. Not only do the transfers

permit a saving in time, cost and weight, the makers point out, but they also release critical nameplate materials, eliminate rivets, screws and bolts and avoid sharp, protruding edges. The product is offered in two types: Type C, an open letter design for use on crinkle finish metal and supplied in non-metallic colors and Type G, a background transfer design for application upon crinkle finish and polished metal, principally aluminum.

COMBINATION CAP AND SEAL

A combination of paperboard cap with specially treated lining or a waxed paperboard disc, together with a cellulose seal has been announced by The Celon Co., Madison, Wis., makers of the cellulose seal. It is being used on a number of food products, according to The Celon Co., and has proved successful. The new combination has been practical in actual plant operation and existing sealing machinery can usually be used with but a few minor adjustments. Coffee roasters can use present vacuum sealing equipment to apply the caps or discs. The cellulose seals are applied with no equipment needed. After application, the seal shrinks to fit the glass finish very tightly and completes the closure.

GLYCERINE ALTERNATE

A product which is serving as a glycerine alternate is being made by Akerite Chemical Works, Inc., Chicago. There are three grades—for plasticizing paper, etc.; a plasticizer, conditioner or humidizer for tobaccos, glues, printers' inks, etc., and a third grade intended for drugs, medicines, foods, cosmetics, lotions. Testing samples of this last grade will be available, the chemical company states, just as soon as the Pure Food, Drug and Cosmetic Act administrators shall have passed upon its toxicity.

NEW BUTTER CARTON

An improved type of 1-lb. butter carton has been developed by the Container Corp. of America, Chicago. Improvement consists of a series of bar-like scores or struts running crosswise to the grain of the board on both the end panels and on the two closing tucks. These grooves added to the carton in this manner increase the stiffness or rigidity of the flaps used to make the carton closure at each end. The reinforcement provided by the construction makes both hand and machine packing easier because the closure is positive.

Special construction does not change the appearance of the finished package and its use, therefore, has no effect upon consumer acceptance and recognition of well-established brands. The manufacturers of the carton state that the new construction does not add to the cost.



What a
Marine
fights for!



JUST a piece of pie . . . but to a Marine, it symbolizes home, his loved ones, the realization of peace and liberty. It's a leatherneck's way of saying, "I'll get this job done in short order!"

One of the most difficult jobs ever to confront the adhesives industry is the sealing of weatherproof cases to withstand all conditions and treatments. Today, glues developed by NATIONAL are delivering the goods . . . helping make possible the realization of that "piece of pie," from Murmansk to Casablanca, from Alaska to Australia.

As you would expect, NATIONAL's expert technicians are in constant consultation with not only Government agencies, but also shipping case manufacturers, and users in many fields. They are thoroughly familiar with all Government adhesive specifications . . . in fact, they helped write many of them. Consult them on your adhesive problems . . . their services are at your complete disposal.

Write for our informative 16-page booklet, "Seal That Case." It sets forth many timely and helpful facts on sealing weatherproof cases.



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Plants and People

S. Carle Cooling was elected vice-president in charge of Packers Cans Sales of the Crown Can Co., according to an announcement by Richard P. Swartz, president.



S. Carle Cooling

Dr. Willard Henry Dow, president of The Dow Chemical Co., has been selected by Columbia University as the Chandler lecturer and medalist for 1943. The citation accompanying the award named Dr. Dow as "one of the outstanding industrialists of the present generation" and noted as particularly spectacular "the achievements of the company in producing bromine and magnesium from sea water and of synthetic plastics and rubber."

The Hinde & Dauch Paper Co., as part of a post-war planning program to develop corrugated shipping containers for new products and advanced marketing methods, has retained Arthur S. Allen as its color consultant. Mr. Allen, who has headquarters in New York City, is a recognized authority on the effective use of color and bases his work on the Munsell System which was recently approved by The American Standards Assn. as the War Standard for Color.

American Can Co., through its subsidiary The Amertorp Corp., has achieved mass production of torpedoes in its Chicago plant on a scale equal to six times the figure which its contract designated for June, according to Carl G. Preis, vice-president. The company is the only private business firm having contracts to make surface-craft torpedoes as well as the aircraft type.

Newark Paraffine & Parchment Paper Co. celebrates its 40th business anniversary this year, having been founded in 1903. Known for their food protection papers, they are supplying the government with many types of papers for special uses.

The New Haven Pulp & Board Co. announces the election of the following officers: William R. Shaffer, chairman of the board; Joseph S. Miller, president; William B. Calkins, vice-president; Henry D. Fisher, vice-president, secretary-treasurer; Water F. Daley, vice-president; Julian H. Morgan, assistant treasurer and Ellsworth W. Cowles, assistant secretary.

Lewis W. Waters has been named vice-president in charge of scientific relations of General Foods Corp. Mr. Waters was formerly vice-president in charge of research and development, which post is now being taken over by Thomas M. Rector. Mr. Rector is the author of "Scientific Preservation of Food" widely used for reference work by food experts.

The Max Ams Machine Co. announces the appointment of Joseph J. Ortalli as sales manager in charge of can and drum making machines, sealing compounds and related war products. Mr. Ortalli has been with the company for 25 years, having held the position of sales engineer, and has had wide experience in the can making and kindred fields.

The Marty Paper Co. of New York City announces that as of May 1 their new address will be 158 Water Street.

Army-Navy "E" Awards for outstanding performance were recently presented to the following: Consolidated Packaging Machinery Corp., Buffalo, N. Y., on May 11, for excellence in war production. Wright's Automatic Machinery Co., Durham, N. C., April 17, for the producing of high precisioned war implements on a mass production basis.

The Dow Chemical Co. announces the reorganization of its Plastic Sales Division and the formation of a Plastics Development and Service Division. D. L. Gibb, who has been affiliated with the company for the past 20 years, has been made manager of the Plastics Sales Division. The newly formed Plastics Development and Service Division will be in charge of W. C. Goggin. Work of this new division will be to handle both the development of new plastics and the service on standard plastic products in new fields.

Robert L. Johnson, president of Temple University, has been elected a director of the Armstrong Cork Co.

Ideal Trading Co., who specialize in the custom packing of food products, announce the removal of their office to 196 West Broadway, New York City.

Arthur G. Hopkins has been elected executive vice-president in charge of Engineering and Manufacturing Divisions of the National Can Corp. Mr. Hopkins joined the company in 1919 and resigned in September 1941 to become vice-president in charge of operation of Canonsburg Steel and Iron Works and Tate Jones Furnace Co., now engaged 100 per cent in war work. Mr. Hopkins remains an officer and director of both companies.



A. G. Hopkins

A new packaging and packing service to prime and sub-contractors of war material is announced by the formation of the firm of L. T. Swallow and Associates, Boulevard

Building, Detroit. Created to assist manufacturers in compliance with Army-Navy specifications for both domestic and export shipments, this organization will also function as technical service and sales representatives for International Plastic Corp., Morrisstown, N. J., manufacturers of pressure sensitive tape, and for Cadillac Bag Co., producers of moisture-vaporproof bags and tubes. Additional representation will include desiccants and other packaging materials. The organization is headed by L. T. Swallow, until recently operating director of Government Parts Projects for Chrysler Corp. Parts Division and active head of Chrysler's Parts Package Engineering Dept.

OBITUARY

Charles S. Findlay of General Printing Ink Corp. died on April 7. Mr. Findlay was reputed to be one of the best transferers in the industry. He started to learn the trade of transferring in 1887.

Col. Peter C. Brashear, chairman of the board of Fort Orange Paper Co., died April 19.

THIS IS A COLLECTION OF SAMPLES OF JUST SOME OF THE PRODUCTS PACKAGED BY S&S MACHINES



We've done our share of America's packaging, too

In many lines, the bulk of production of the industries is S&S packaged. . . . In many more, the job is split about evenly between S&S and others. . . . In almost every industry where the material to be packaged is a powder, granular substance or paste, S&S has supplied a goodly percentage of the packaging machines.

This is easy to understand when you

remember that, in many cases, it has been S&S improvements that have made the advances in packaging technique — that have made practical many better packages at lower unit costs. Further, it has been S&S developments, like that of the first tight-wrapper, that alone have made possible many new triumphs of modern packaging.

TODAY — WE'VE FOUND FOUR NEW WARTIME WAYS TO SERVE:

We supply many essential new S&S machines . . . and help convert old S&S equipment to wartime uses. And, drugs and chemical products for the armed forces and the home front — munitions — a vast number of familiar foods and a large percentage of the new dehydrated foods — a hundred other war-important items — are speeding through production faster, in greater volume, because of this.

We are helping, too, in solving war's new and

unfamiliar packaging problems, through close collaboration with many packagers.

And, we are doing this in addition to production direct for the United States Government, at whose disposal our facilities have been placed.

ONE OTHER JOB WE WANT —

If you have a packaging problem that's war-essential, bring it to our engineers. We'll help any way we can, so long as it contributes toward Victory.

A GOODLY PERCENTAGE OF AMERICA'S FAMOUS PRODUCTS ARE PACKAGED ON

S & S Filling Machines

S & S Carton Filling and Sealing Machines

S & S Bag and Envelope Fillers and Sealers

S & S Tight-Wrappers

S & S Complete Packaging Line

STOKES & SMITH CO.

FRANKFORD, PHILADELPHIA, U. S. A.

FILLING • PACKAGING • WRAPPING MACHINES

For Your Information

For the convenience of manufacturers engaged in government contract work, National Adhesives Division of National Starch Products, Inc., 820 Greenwich St., New York City, has compiled a chart of government specifications which call for the use of adhesives. The chart lists the issuing agency, specification number, date of issuance and the purpose of the specification. Many of the specifications have to do with the sealing of weatherproof fibre shipping cases for export. Copies of the chart will be sent free upon request.

A letter from Denys Val Baker of London, England, mailed April 15, has this to say about plastics in its relation to packaging in Great Britain: "Despite the many advances made by plastics during wartime into new and important British industries—engineering, aircraft, etc.," Mr. Baker writes, "plastics firms over here are not forgetting the importance of the packaging industry as a consumer of plastics. For that reason, considerable interest is attached to the encouraging progress now being made by a Packaging Research Committee set up some months ago by the Printing and Allied Trade Research Assn. After several months' investigation, the committee has made initial recommendations and it has now been taken over as an officially established body, under the Council of the P.A.T.R.A. An indication of its importance is the fact that no fewer than 95 big firms have subscribed £5,245 (to date, more to come) towards meeting the cost of research work. Among those appointed to the Council to deal with the work are representatives of British Cellophane, Ltd., Thames Board Mills, Ltd., Venesta, Ltd., I.C.I., Ltd., John Dickinson and Co., Ltd., and, among national advertisers, Horlicks, Ltd., Lever Bros. and British American Tobacco Co., Ltd.

"Among the developments which are to be investigated by the research body," Mr. Baker continues, "are (1) penetration of (a) paper and board, (b) cellulose film, (c) rubber derived film, (d) plastic film, etc., by moisture vapour, liquids of various kinds (water, oils, fats, etc.), gases of various kinds (air, oxygen, carbon dioxide, etc.), heat, light of various wavelengths; (2) effect of impregnations with various materials and under varying conditions; and (3) to establish factors controlling and preventing mould and bacterial growth, both outside and inside packages; (4) to establish relationships between strength and mechanical properties of materials and strength of package of various designs; (5) to establish relationships between design and strength against impact and crushing forces; (6) to devise tests for adhesives used on package-making machines; (7) to investigate methods and mechanism of heat sealing; (8) to study efficiency of various types of closure for security, sifting and other factors; and (9) to study effect of moisture content, material, direction of cutting or scoring, shape of cutting or scoring tool, etc., on the type and efficiency of operating. While attention at first may be given to paper and board packages, plastics packaging materials will later be considered and, in any case, plastics material are now used extensively as co-materials to such an extent that it is difficult to draw distinctions (i.e., plastics coatings for papers, etc.). There is considerable enthusiasm for the new Council and it has support all round in the packaging and plastics trades."

One of the vital problems now commanding the attention of industry is absenteeism. Many requests from war contractors for information and control methods on this subject led the Division of Labor Standards of the United States Department of Labor to make a special study. A pamphlet has been issued which sets forth the experiences of management in dealing with absenteeism in some 200 outstanding war plants. Title of the pamphlet is "Controlling Absenteeism." Another pamphlet issued by the WPB's War Production Drive Headquarters for the Guidance

of its labor-management plant committees is "Ways of Dealing with Absenteeism." This pamphlet deals with methods effectively used in combating the in-plant causes of absenteeism and suggests methods for developing community cooperation in handling other situations which contribute to lost time on war jobs. Copies of the publications may be obtained by writing, respectively, to the Division of Labor Standards, U. S. Department of Labor, Washington, D. C., and to War Production Drive Headquarters, WPB, Washington, D. C.

Twenty-fifth annual meeting of the National Paper Box Manufacturers Assn. was held at the Drake Hotel, Chicago, May 16 to 19. Decision to hold the conference was based on the fact that the gatherings have become important business meetings of the set-up paper box industry and that at present practically all the discussions pertain to the maximum contribution the industry could make toward winning the war. J. Irving Osborne, Jr., president, Hummel & Downing Co., talked on "Current Paperboard Supplies," and Charles Matthias, president, Matthias Paper Corp., gave an address on "Paper for War." Also represented among the speakers were Roswell C. Mower, director, Containers Branch, WPB; Andrew G. Burry, chairman of board, Wayne Paper Box and Printing Corp.; John H. Paterson, Containers Section, WPB; G. Edgar Mooney, Folding and Set-up Box Section, OPA; C. Victor Hodder, administrator, Packages and Converted Paper Products, The Wartime Prices and Trade Board, Canada; Chester A. Gage, vice-president, National Starch Products, Inc.; and James A. Perkins, price executive, Paper and Paper Products Branch, OPA.

The 740,000,000 pieces of air mail which will be flown by the airlines of the United States in 1943 will travel an average of approximately 1,400 miles, based on the average haul of last year, indicating air mail letter distance is increasing, according to C. P. Graddick, director of United Air Lines' air cargo department. The utility of air mail in wartime, Mr. Graddick pointed out, is emphasized by the substantial interchange of correspondence between industrial firms and war production plants, in addition to hundreds of thousands of letters carried monthly to and from army and navy bases, domestically and internationally.

A recent publication of the U. S. Department of Commerce, Division of Current Information, Washington, D. C., is a booklet on "Markets After the War." S. Morris Livingston, head of the National Economics Unit, directed the preparation of the study.

The Jewelers' Circular-Keystone, 100 East 42nd St., New York City, has just issued a leaflet on "Marriages in 1942." "Because two-thirds of the 1,800,000 brides of '42 were married to service men, huge buying volume will follow post-war home-making," the leaflet points out. The leaflet lists the 50 cities in which there was the greatest increase in marriages.

United States Rubber Co., which recently placed in operation the world's largest synthetic rubber plant at Charleston, W. Va., has used all available types of synthetic rubber in its products since 1932, according to a booklet, "The Five Commercial Types of Synthetic Rubber," released by the company. Compiled for sales engineers of the rubber company, the booklet has been called the first technically accurate statement of the over-all synthetic rubber situation which can be understood by the layman. It is available free upon request to the United States Rubber Co., Synthetic Rubber Division, 1230 Sixth Ave., New York City.

If the WAR ENDS

Wright's Automatic Machinery Company will be ready—ready for the needs of peace—ready to fill the needs of a new era requiring precision-built automatic machinery.

The war years are teaching us many things about new metals, new methods and principles... New ideas also are reaching maturity in technical engineering—some, years ahead of normal development.

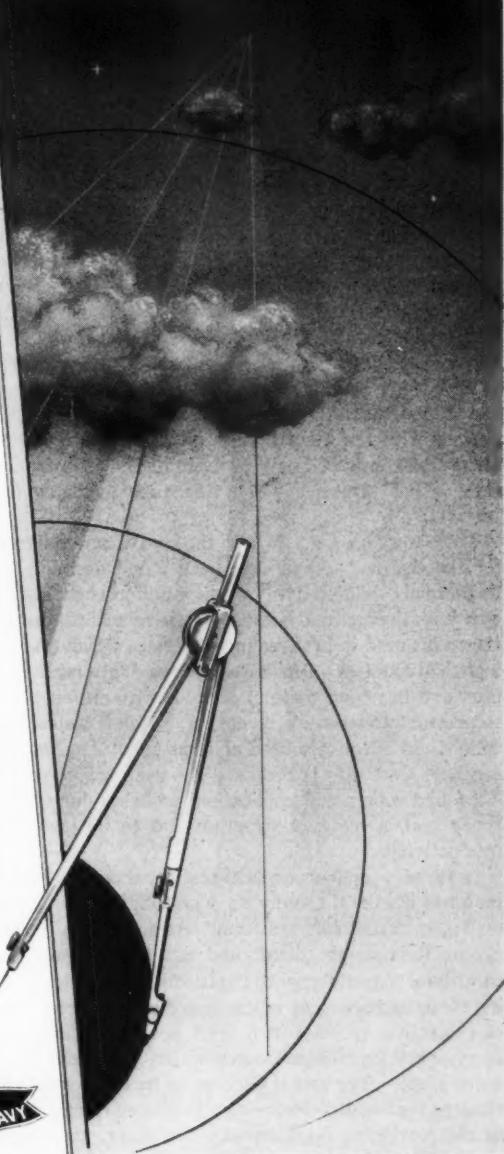
Wright's are today absorbing and storing up ideas for the future... They are going farther and putting their experience and knowledge on paper. They are, in effect, planning for the future while they are busily producing for the present.

To users of Wright equipment and others, who are also planning for tomorrow, we offer our fullest cooperation in designing and development of automatic machinery they will need to solve post-war problems.

(Remember—there are no priorities on SERVICE at Wright's)



TOMORROW



ESTABLISHED
• 1893 •



PACKAGING
ENGINEERS

WRIGHT'S AUTOMATIC MACHINERY COMPANY
DURHAM CABLE ADDRESS YONWRIGHT NORTH CAROLINA, U. S. A.

Heat sealing

(Continued from page 94) case of the rubber derivative film is much the same. Again, neither the material nor the equipment is to be condemned.

If there is too little heat supply and a two-side, lacquered material begins to stick to the sealers, it generally is a simple matter to increase the heat supply and to secure good operation. It is surprising how often the problem of heat-sealing materials sticking to sealers on machines depending upon sliding motion is misinterpreted as a case of too much heat rather than too little. Many such cases have been remedied when the operators realize the fact that, as mentioned above, many heat-sealing agents while being heated, first become tacky then actually fuse. It is during this insufficiently heated tacky stage that adhesion to the sealing plates most seriously occurs. If the material is one of those that simply will not seal with a sliding motion, its functional advantage or its economy should be weighed in the light of cost of getting new equipment or adapting old equipment to the proper type of sealing motion.

With this type of motion, as with the other types discussed, the time-temperature-pressure relationship is paramount and, as with the other types, the temperature factor must always be considered as a problem of heat supply and as a rate of heat transfer within the time available for that transfer.

Much work has been done on the kind of material to be used for the sealers. Copper has been found desirable because its thermal conductivity allows more uniform heat distribution over its entire area and because it resists chemical reaction with the resins used in heat-sealing materials, which often have a high acid number. Brass, easily formed into parts, is widely used and has good thermal conductivity, although it is not so resistant to corrosion as copper. Stainless steel has been widely and effectively used and has given long, satisfactory service. Cast iron is proposed by some engineers, but has not found widespread application, probably due to its sometimes porous material structure and to its lower thermal conductivity.

In these two papers on heat sealing, there has been no attempt to discuss the many ways of taking advantage of heat sealing in actual package form. As a means of mechanical closure it is simple, direct and can be very sure. It can contribute tremendously to the functional abilities of packaging material because it is the link that completes the chain of protective qualities in a good package, closing the last entry or exit for moisture vapor, water, grease, contaminating aromas, etc. The actual package to be made more effective through heat-sealed closure may be chosen from many forms, as the marketing requirements, the shape, the size or the physical or chemical properties of the product dictate. Bags made from sheet or film with its entire surface capable of heat sealing or made with an imprint enabling heat seal or just the top and/or the bottom, packets made by sealing two sheets of film or paper together around their four edges, pouches made the same way or by folding a sheet back upon itself—these latter in sizes ranging from quite small to very large—liners placed in cartons either as pre-formed bags or as bags formed with heat seals right on the package forming machine, wraps, plain, printed or transparent, with or without inner supporting carton—all these are forms of packages available through heat sealing. Machines ranging from the simplest inexpensive foot-power crimper to the most complicated automatic package forming, filling and sealing

set-up are available in wide variety from reputable and very capable engineering firms. Materials ranging from the most ordinary waxed sulphite through the glassines and the lacquered or hot melt coated papers, through the cellophanes with their heat-sealing coatings and the films that are entirely thermoplastic, the specially coated foils, to complex lamination of combinations of these materials with themselves or even more complex laminations of various of the materials so that each may lend its qualities to a combined job on packaging—all are available for heat-sealing work. Each requires its own terms of handling, though many are similar, and each reaches its best use only through cooperation between supplier and user in learning the optimum conditions under which the needed qualities of the material are made most readily available with smooth operation, doing the packaging job that has to be done.

Photographs courtesy, Heat Seal-It Co., Philadelphia; Package Machinery Co., Springfield, Mass.; Stokes & Smith Co., Philadelphia; Amsco Packaging Machinery, Inc., Long Island City, N. Y.; Richard Machine Co., Battle Creek, Mich.; Oliver Machinery Co., Grand Rapids, Mich.

Bottling pure gum turpentine

(Continued from page 71) filling equipment—everything was full speed ahead on war work. The company needed to adjust its equipment at once, so the production department of the company went to work. Its mechanics adjusted the equipment so that it is interchangeable and either glass or tin containers may be used on the filling and packaging line. All the changes that had to be made in the line were made by the company's own men in its own plant.

Recently, it became necessary for the plant to adapt its filling equipment for a glass 1-gal. jug. After considerable effort, the plant's production department succeeded in adapting the equipment for filling metal containers to filling the glass jug with about 75 per cent of its previous efficiency. Formerly, the equipment filled four 1-gal. cans, but when adapted to glass, it fills in one operation three 1-gal. jugs. The company, however, considers this an achievement since all the work and the needed adjustment were done by its own mechanics. Their ingenuity saved vital metal and other material as well as labor.

The Turpentine & Rosin Factors, Inc., packs gum turpentine at the source of production. Gum turpentine is made from the oleo-resin that is discharged from living pine trees. These trees are to be found in eight of the southeastern states, and the company's plant at Savannah, Ga., is in the heart of the pine tree belt from which the gum turpentine is obtained. Members of American Turpentine Farmers Assn. Cooperative produce about 92 per cent of the gum turpentine production of the United States.

In the Savannah plant, Turpentine & Rosin Factors dehydrates, filters and packs the gum turpentine immediately in airtight glass containers. The bottles are capped with screw-on metal closures and then sealed with secondary viscose closures for further protection against absorption of moisture, leakage and tampering.

Credit: Bottles and closures, Owens-Illinois Glass Co., Toledo. Secondary viscose closures, Armstrong Cork Co., Lancaster, Pa. Filling machine, The Karl Kiefer Machine Co., Cincinnati. Photographs, courtesy American Turpentine Farmers Assn. Cooperative and Turpentine & Rosin Factors, Inc.

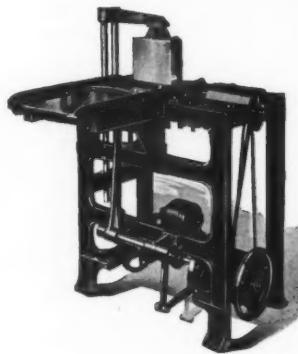
When it comes to performance

—YOU NEED NOT WORRY

*if you keep your machines
clean and well oiled*

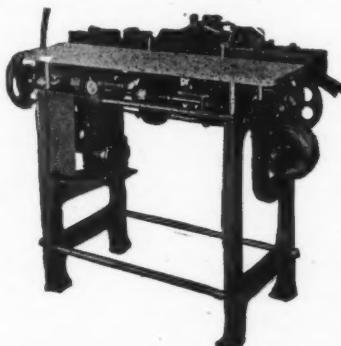
Peters Machines are sturdily built to operate for many years and to give uninterrupted production. Like all machines they must be given a little attention however and we suggest you inspect them periodically to prevent unnecessary wear. Where replacement parts are necessary, do not hesitate to order them.

Every existing machine should be kept in operation and we will extend every effort to help you keep yours at top performance if we can be of service to you. Write us if you have any problems and we will give your inquiry prompt attention.



This PETERS JUNIOR CARTON FORMING AND LINING MACHINE sets up 30-40 cartons per minute, requiring one operator. After the cartons are set up, they drop onto the conveyor belt where they are carried to be filled. Can be made adjustable to set up several carton sizes.

This PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE closes 30-40 cartons per minute, requiring no operator. After being filled, the cartons enter this machine on conveyor belt as open, filled cartons and leave machine completely closed, ready to be packed for shipment or wrapped. Can also be made adjustable.



With all of its facilities devoted to the manufacture of war equipment, Peters is contributing directly to the war effort.

PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVENUE, CHICAGO, ILL.

**TODAY'S
NO. 1 BUYER**



Our 36 years experience making
boxboard has naturally resulted in heavy demands
on our facilities to supply board for Uncle Sam — we
are proud of this opportunity to participate in
the war effort. We are doing the best under
these conditions to take care of our
regular customers too.

MAG SIM BAR
Paper Company

OTSEGO, MICHIGAN
PHONE KALAMAZOO 5500

CHICAGO, 228 N. LA SALLE
PHONE CENTRAL 1798

No retreat for brand

(Continued from page 85) the company writes, "there have been a good many factors which have had an effect upon our packaging and display program since the start of World War II. First of all there has been very little display of druggists' rubber sundries because the government frowns more or less upon any planned promotional efforts which would be designed specifically to promote the sale of rubber goods over drugstore counters.

"We have been operating on an allocation program which establishes a certain amount of merchandise to go to our established wholesale distributors each month. Prior to the war, we, along with most every other manufacturer who sells sundries to the drug trade, promoted monthly deals along with which there was a certain amount of display material. The current allocation program, of course, does not make allowance for display material and we are falling in line with government attitude in regard to display."

In sharp contrast to the restriction on specific displays for rubber sundries, in which field shortages have had a tremendous effect, is the program for pharmaceuticals. "Sharp & Dohme," that company reports, "have never bought a tremendous volume of display material. Over the last year, we probably purchased in the neighborhood of 35,000 to 50,000 pieces and in certain cases we had to use different material than we would normally choose, but there has been no shortage in so far as a supplier has been concerned. . . . Sharp & Dohme is, of course, classified as a war industry. For this reason, our promotional activities, in so far as window displays are concerned, have been going along very much the same regardless of the war."

Two distillers, whose products have not been rationed, tell how they themselves have worked out their own rationing programs and how they have met the government regulations in standardization of bottles and acquainted the public with these facts. "In this industry," Frankfort Distilleries, Inc., say, "all members have converted their facilities for the production of alcohol for explosives, synthetic rubber and other war products. No one in the industry has made whiskey since October 8, 1942. Since then, we have been trying to apportion our pre-war stocks to assure the public of a continuing supply until the war is won. . . . This restriction has brought about a condition that makes the use of displays and any other form of point-of-sale inducement unnecessary in the fulfillment of the sale of the product. The only function of point-of-sale material in the distilling business under today's conditions is purely that of keeping the brand names before the public."

Brown-Forman Distillers Corp. of Louisville state, "Our products are not rationed by the government, but we in this industry have a self-imposed rationing program. This naturally entails certain territories being temporarily out of merchandise. We are, however, constantly advertising in magazines and newspapers as well as trying to maintain a strong point-of-sale campaign. This has become increasingly difficult, due to curtailment of materials for the manufacture of signs and point-of-sale pieces. We have adopted a standard cardboard frame which stays in the retailer's window and we mail him sheets to be inserted in the frame, which make attractive windows. We are doing this instead of the customary method of mailing a completely mounted window every few months. . . . We have instructed our salesmen to cooperate with dealers and explain the necessity of rationing

to them, as well as the necessity of maintaining identity of popularly advertised brands, even though they may be temporarily out of stock. The majority of dealers have cooperated with this program 100 per cent and in only one or two instances did a dealer refuse to put in a window, saying he had no stock. The consumer has for the most part responded by asking for nationally advertised brands rather than off-brands and only accepting off-brands when there were no advertised brands available. Our experience has been, they continue to insist on advertised brands even though they have made several previous attempts to purchase them and have found an out-of-stock condition.

"We have adopted the policy of making a replica of our bottles in actual size, printed on cardboard, to be used in the place of actual bottles on the shelf as a help to maintain proper identity."

Of all the many factors which have been created by the war, the one which has had the greatest effect on the Cannon Mills, Inc., display program has been the government consumer education program. With the tremendous drive to make everything last longer which the government has been putting on to educate consumers to a war economy, many manufacturers have echoed this theme at the point-of-sale. "We have designed a special display piece telling consumers how to make their towels last longer," Cannon Mills declares. "This is the only display piece that we have prepared, since, with the shortage of merchandise, it is necessary to eliminate *sell* from all displays."

Rationing has not affected the toilet goods industry as yet, but Shulton, Inc., says, "With the shortages of goods in the alcohol products, we have been promoting our 'dry' goods with special emphasis on powder body sachet to help conserve toilet water and perfume. Stores have made special displays and as a result, volume has been upheld through the sale of these 'dry' items."

"There is just as much demand for displays as ever, but with various paper shortages, it is impossible to supply them in quantities as formerly. It takes greater ingenuity on the part of dealers to make the most of what displays they have. With dry products being promoted through display, advertising and publicity, the consumer is being educated over to staple products to find new uses for them."

"The government consumer education program has not affected our situation very much because of the very nature of our products. However, the conservation program has been emphasized in all our displays, our promotion, advertising and publicity."

General trends revealed by manufacturers and producers of food and other products as far as their display programs are concerned appear to point to limitations in the quantity and variety, but not to cutting out of these point-of-sale pieces. Even those who made now off-the-market merchandise have turned to institutional types of units to keep their names before the public for the duration. They have also adopted national patriotic themes for use in store windows and on counters. There is no doubt but that business men as a whole appreciate the value of retaining public recognition at the purchasing point.

Practically all of those who answered the questionnaire on their program plans for displays have emphasized the fact that under present market conditions the type of display used is vastly different from that employed in a highly competitive market. Today there is stress upon conservation how to do, explanation of shortages of goods and of changes in product and package. No longer is the major appeal of the display that of *sell*. The greater (*Continued on page 120*)

Wire Stitched Shipping Containers Best Protect Your Goods in Transit or in Storage



Bliss Heavy Duty Bottom Stitcher



Latham Bottom Stitcher

Regular Slotted Containers with bottoms wire stitched are widely recognized as the strongest, most rigid and dependable containers available. Wire stitching utilizes the entire strength of the board and is unaffected by moisture conditions in storage or transit.

For your stitching equipment, it will pay you to investigate the machines illustrated here, before you buy.

THE BLISS HEAVY DUTY BOTTOM STITCHER is recommended for heavy duty, high speed, continuous production. Favorably known as the fastest, strongest, most durable and dependable Bottom Stitcher built.

IMPROVED LATHAM BOTTOM STITCHER is a moderate priced machine, recommended for stitching the lighter grades of corrugated and solid fibre containers, in all the usual sizes which do not require the heaviest kind of stitching. Has many features heretofore found only in the highest priced machines.

THE BLISS TOP AND BOTTOM STITCHER. Some products must now be shipped in completely wire stitched containers. This stitcher is recommended for plants or departments where one machine will handle the quantity of bottom and top stitching needed. Quickly changed for bottom or top stitching. Counterbalanced table for easy raising and lowering.

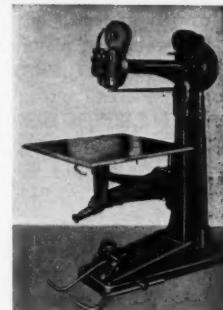
FOR STITCHING FILLED BAGS, the Boston Portable Bench Stitcher has been found practical and convenient, as it can be readily moved to the work to be stitched. Operates from light socket—solenoid operated foot pedal.

ASK FOR LITERATURE ON ANY OF THESE MACHINES

DEXTER FOLDER COMPANY

330 West 42nd Street, New York

Chicago—Boston—Philadelphia—Cincinnati



Bliss Top and Bottom Stitcher



Boston Portable Small Bag Stitcher

Many Great Nations Are Already Planning Post War Programs as are also many business men—**ARE YOU?**



The Beck Sheeter

After "Unconditional Surrender" is a fact of history, you will want the highest productive Sheeting equipment obtainable, to meet competition. Your choice may be from the hi-speed Electric Eye machines for "spot sheeting" down to the more simple standard machines for plain work.

Write us to-day for to-morrow.

CHARLES BECK MACHINE CO.

13th & Callowhill Streets

Philadelphia, Pa.

TO ESSENTIAL INDUSTRY

NEW CONDITIONS
BRING
NEW PROBLEMS
WHICH
**MID-STATES
GUMMED PAPER COMPANY**
is solving

If you have a problem along packing, shipping or production lines, which might be overcome by means of adhesives, coatings, saturating, laminating or combining paper, cloth, or other materials, just outline it to us.

Without obligation we will go to work on it and if there is a practical solution—we'll find it for you. Your inquiry is invited.

MID-STATES GUMMED PAPER COMPANY

Manufacturers of Green Core Paper and Cloth Gummed Tapes. Mid-States *Really Flat* Gummed Papers, Green Core Stay Papers, and Green Core Gummed Holland and Gummed Cambrics.

2515 SOUTH DAMEN AVE. • CHICAGO, ILL.

number of the appeals are educational and informative.

Most of the businesses, too, find that shortages in actual display materials have curtailed the quantity of pieces used. Consequently, planning has to be done very carefully to get the greatest benefit from a small or limited amount of material. Pieces for windows and even counter cards have been planned for greater permanency. Display programs are still doing a job on the home front and they are still being planned, but the direction they are taking is different from that of peacetimes. Product and brand name are still there at the point-of-sale letting the public know that their familiar branded products are available or will at some time be available to them. At the same time, display themes have become more general and more basic. No longer is the drum beaten for the sale of a specific product during a definite timed campaign as was the case in normal times. This type of display is not needed when there is shortage in practically every kind of goods. Instead the display piece must act as a kind of silent salesman for an entire line and help to make up for the lack of trained personnel in the majority of stores throughout the country.

Display makers switch

(Continued from page 77) foods fell away. The company decided to convert to the manufacture of containers—fibre containers, since they were familiar with paper as a material.

There were innumerable obstacles to the conversion. First of all, the government announced that the fibre package makers were to get but little help in the way of steel for needed changes in machinery. The very numbers of manufacturers in the field prohibited any bars being let down regarding the restrictions on steel. The company petitioned for several hundred pounds of steel for machinery changes, but it was turned down. Even steel for dies was refused. Therefore, the effort to convert had to be carried on without tool steel. Presses were picked up at second hand. Lamination machinery was made of parts found in junk yards. It wasn't until June of 1942 that the company started to build machines. An added difficulty was the fact that the company's artists were taken by the armed forces, largely for the camouflage division, until only the foreman in the art department was left. He was deferred temporarily because every product for which the fibre drum is being planned has to be designed and planned for individually. Based on the company's experience in *papier maché* construction, they know that nothing can be standardized for widely varying conditions. Salt air, for example, breaks down the stoutest *papier maché* ever built. Some of the containers, therefore, will require the greater resistance on the inside, others on the outside.

Independent tests by the company have gone far enough to include the packaging of clothing and of gunpowder in the container with a water bath of 15 hours; the pouring in of grease into other containers at 250 to 300 deg. F. without having the containers warp; and the simulation of tropical conditions which produce mildew on the container. Special liners have been developed for special conditions. One important feature of all the liners, the company reports, is their flexibility, which enables them to withstand the shocks of transportation and rough handling without cracking or breaking. At present the company is trying to increase

its capacity in order to help at least a few of the many makers of needed articles who must have non-metal packages if they are to stay in business. New machines are being built, additional space has been provided and the management is hard at work thinking up methods to keep its war-born industry alive during these difficult times, with odds and ends of machine parts, presses, converted by trial and error, that may appear queer but which do the work efficiently.

Credit: Fibre drums by The Fibro Container Corp., Minneapolis, Minn.

Para-packs

(Continued from page 57) from the air by Massachusetts Civil Air Patrol pilots, with a view to effecting savings of now-scarce silk and nylon.

Announcement of these tests were made by Maj. Robert S. Fogg, Army Air Forces officer, now assigned to the Civil Air Patrol in the New England area and stationed at Boston.

This chute is being made by the Dennison Mfg. Co. The material is a crepe paper—special stock, sufficiently strong to withstand impact of opening when dropped at normal civilian plane speed. It was designed for safe landing of emergency supplies such as food, water, medicines, blankets, clothing, fire-fighting equipment and tools. The chute is made to open in 1 to 3 seconds after release and is designed for minimum drift, permitting accurate descent from low altitudes. It is made to carry 25 lbs., but in tests under favorable conditions 50 lbs. were carried safely.

Such paper chutes can be of inestimable value in case of disasters such as floods, forest fires, airplane crashes and will carry a package containing supplies for several people, which can be dropped at one time.

Test drops were made from Civil Air Patrol planes of the Framingham squadron, under direction of Mr. Stanley Hall of Wellesley, squadron commander, working with the manufacturer's research experts.

Types of paper dispensers

(Continued from page 61) supplement the paper cylindrical container Lehn & Fink are using for this product. Dentugrip, made by Hudson Products, Inc., will also appear in the same type of container.

The problem of leakage is solved by the use of an inner heat-sealing liner which eliminates all possibility of sifting. The larger containers are equipped with a neck clamped to the carton and through the liner. On top is a plastic screw cap. This gives the container the appearance of a metal can. The smaller size for the lower price range is provided with a paper slide that moves back and forth over the opening. The purchaser simply pushes the slide to one side, pricks a hole in the liner to shake out the desired quantity of contents.

A container used for Aero Club Men's talc is a combination set-up box with a folding carton interior. Perforations are provided in the top of the carton which is inserted into the box. Over the perforations is a protective paper, which the consumer punches in order to dispense the powder.

A new can for Mennen's talcum powder and one that will soon be used for dental and other (Continued on page 123)

WE WANT IDEAS!

FROM MACHINERY MANUFACTURERS
INVENTORS • PLANT MANAGERS AND
MACHINE OPERATORS . . .

The Hudson Sharp Machine Company has devoted a period of 65 years to the development and manufacture of various types of machines used by manufacturers of paper and paper board products. During that period we have originated and improved many of the machines now used in this industry.

During 1942 and to date in 1943 we have turned our entire shop facilities to the manufacture of equipment for the Army and the Navy. We have, during this period, increased the size of our plant and have added new tools and equipment.

We will continue to operate our plant for defense as long as the government requires our services but in the meantime we must, with industry in general, devote some attention and planning to post-war problems so that we may keep our present employees busy and provide places for men from our plant who are in the armed service.

We want to improve the machines we have manufactured previously. We want to add new and needed equipment to our line. We appreciate that men in the paper industry have a large store of ideas which they would like to have developed and placed in use.

To this end we offer our services. We will cooperate with any manufacturer desiring larger production of machines he has heretofore been manufacturing on a limited scale. We will take the inventions of those who have designed equipment for the paper and paper board trade, develop these plans and manufacture the machines for the inventor to sell, or will sell them through our own sales organization. We will meet with plant managers and machine operators who have ideas for improving our machines or for new machines with a view to co-operating with them in the development of their ideas.

We offer this service on a cooperative basis under arrangements which will be mutually and satisfactorily agreed upon.

We invite your correspondence with a view to arranging a personal contact.

HUDSON-SHARP
MACHINE CO • GREEN BAY • WIS



PROTECTION YOU CAN SEE THROUGH

WITH LUSTEROID VIALS AND TUBES

Wherever it is important to display your product and protect it as well, it will pay you to look into the advantages of LUSTEROID vials and tubes.

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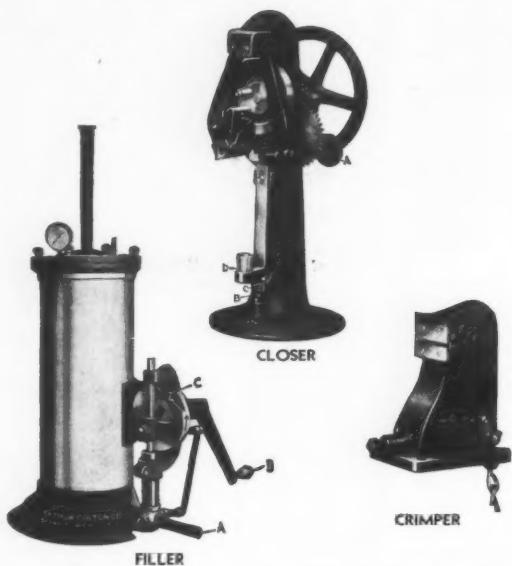
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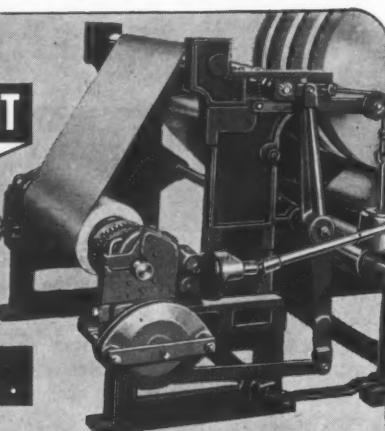


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(Continued from page 120) powders is an all-fibre construction and is being made by one of the leading metal can companies. A ridge pressed into the closure disc makes for easy opening and closing of the sifter top. These containers are made and filled on existing equipment and can be lithographed with the regular labels.

The containers mentioned herein are not all of the paper ones on the market today, but they provide a fair idea of the many selections from which the user may make a choice and may serve as a guide in these troublesome times when every possibility must be explored to find a container to take the place of those on critical lists.

Credit: Squibb containers, Cross Paper Products Corp., New York City. Ward's Baby Powder, Lusier's Bath Salts, Wood Spice Talc containers, W. C. Ritchie & Co., Chicago. "Follow Me," Dr. Scholl's, Borden's Cheese containers, Cleveland Container Co., Cleveland, Ohio. "Dream Girl" carton, U. S. Printing & Lithograph Co., Cincinnati, Ohio. Mennen container, American Can Co., New York City. Cashmere Bouquet containers, Sonoco Products Co., Hartsville, S. C. Como-Clean container, Platt Corp., Baltimore Md. Four dispensers (detail photo), F. N. Burt Co., Buffalo, N. Y. Pebecon and Dentu-Grip containers, Lord Baltimore Press, Baltimore, Md.

Washington review

(Continued from page 104) said the Glass Container Manufacturers Industry Advisory Committee at a meeting with WPB officials in May. If manpower, transportation and an adequate supply of materials are available, the committee estimated that 1943 production will be 92.5 million gross (13.3 billion containers) as compared with 79.1 million gross (11.3 billion containers) in 1942. Despite shortages of fuel, cartons and manpower, glass container production during the first quarter of 1943 showed an increase of approximately 9 per cent over the same period of 1942. Emphasis in 1943 was placed on the production of food containers with the result that production of such containers in the first quarter of 1943 was approximately 20 per cent above that in the corresponding period of 1942. The committee reported that the drain on experienced employees in the glass container and closure industries has been heavy.

● **Packaging Drugs and Medicines**—According to the periodic round-up of the supply status in various types of consumer goods and services issued by WPB, the greatest problem as far as drugs and medicines for civilians are concerned is one of packaging rather than of obtaining essential ingredients. Less critical materials are being substituted for more critical ones by manufacturers.

● **Wooden Containers for Fruits and Vegetables**—Under WPB Limitation Order L-232, as amended, manufacturers may make or assemble wooden shipping containers for fresh fruits and vegetables until August 31, from any wooden parts which they had cut to size prior to March 4. In addition, persons who buy ready-cut wooden parts and assemble them may continue to assemble non-standard parts, until August 31, providing the parts were bought and received prior to April 1. Under the order as originally issued on March 1, 1943, the assembly of non-standard parts was prohibited after May 31.

● **New Closure Order**—Amendment to M-104 calls for use of electrolytic plate to the greatest extent possible, instead of hot dipped tinplate for closures.

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Women and men operators alike find it's easier and faster to stitch cartons with Acme Silverstitchers. They're easy to operate . . . with numerous time and effort-saving features. Output of stitched cartons in many plants has been doubled by an Acme Silverstitcher installation. In others, there have been savings of time and material, amounting to as much as fifty per cent. Acme Silverstitched cartons are neater and stronger. Sealing by stitching is often five times faster than other sealing methods . . . its holding power is twice as strong on the average. Costs are appreciably lower.



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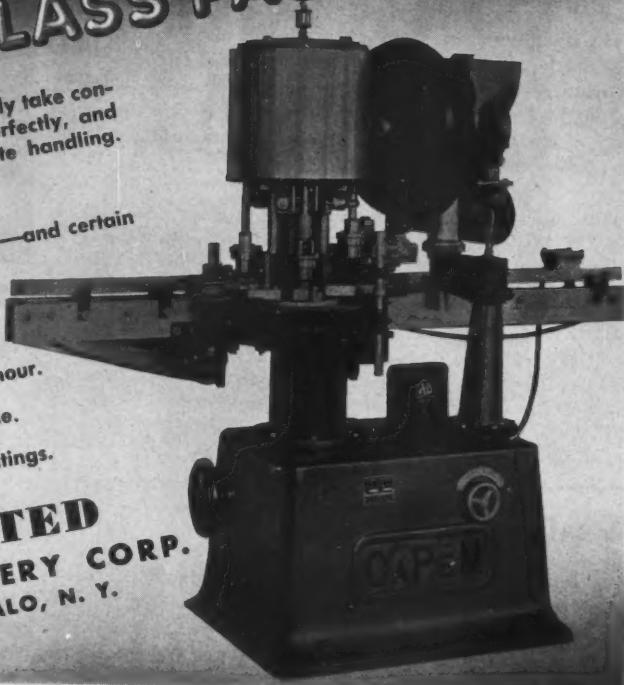


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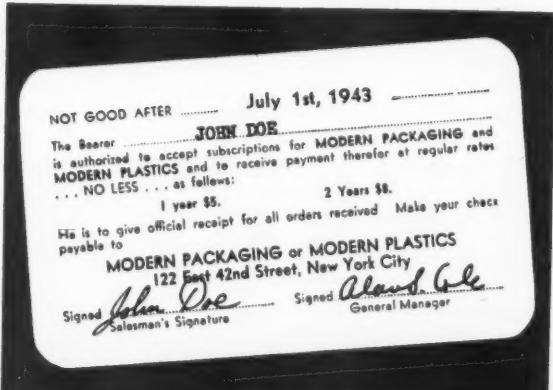
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T. G. A. promotes

(Continued from page 100) more than one protective cover.

Throughout the convention program, full recognition of the vital importance of packaging was manifested. One feature was the "Information Please" session on containers and closures at which members listened to the following suppliers discuss package problems: Alfred F. Brady, Hazel-Atlas Glass Co.; B. Franklin Conner, Colt's Patent Fire Arms Mfg. Co.; Richard M. Krause, Richard M. Krause, Inc.; J. H. Patterson, F. N. Burt Co., Inc.; Frederic Remington, Peerless Tube Co.; L. R. Root, Scovill Mfg. Co.; C. H. Vanderlaan, Vanderlaan Tile Co.; and Karl Voss, Karl Voss Corp.

C. A. Willard, deputy director of the drug and cosmetics section of the chemicals division, WPB, frankly declared that containers and closures constituted the most serious question before the industry and suggested in view of the growing shortage of urea and the rigid restriction on formaldehyde, that a study should be made of the possibilities of melamine. He neglected to tell, however, how melamine could be transformed into a molding compound without the use of formaldehyde.

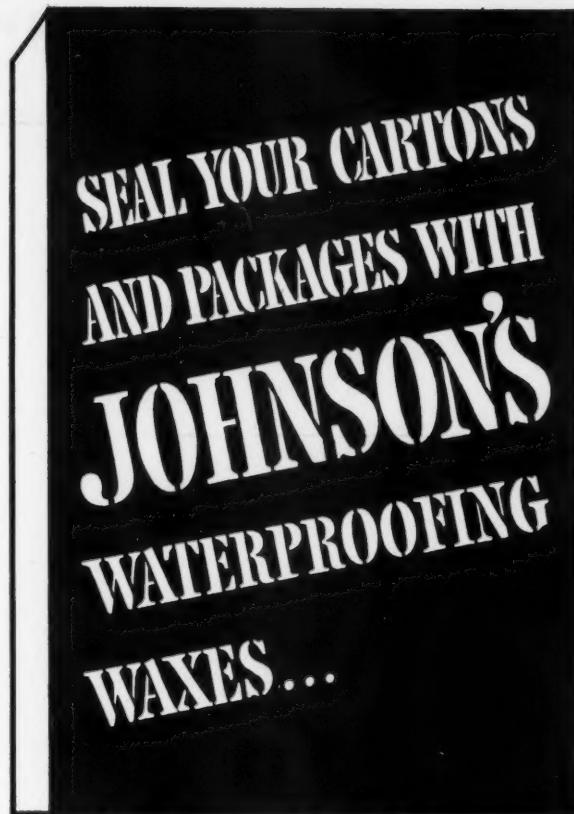
Herman L. Brooks, who has headed T. G. A. for eight years, was again elected president, and three vice-presidents were chosen: Paul H. Douglas, Bourjois, Inc.; William M. Bristol, Jr., Bristol Myers Co.; H. P. Willats, Colonial Dames. Treasurer is Paul F. Vallee of Roger & Gallet. Secretary is Joseph A. Danilek of Lehn & Fink. S. L. Mayham continues as Executive Secretary.

Reclaiming crown caps

(Continued from page 76) have been used as tumbling barrels. All of the equipment has had to be built from existing apparatus, since no new machinery is available.

Another method of augmenting the supply of crown caps is that of stamping crowns from salvaged No. 10 cans. Crown manufacturers are giving considerable attention to this method and users of crowns are conducting extensive salvage campaigns to collect such scrap which is flattened out, cleaned and sent to the manufacturers of crowns. About 47 crowns can be made from the metal in one No. 10 can. These crowns are more like new crowns than reclaimed crowns since they are actually stamped out from the scrap metal on the same machines as new crowns. The sheets can be sprayed with lacquer when flat and therefore make a neater looking job when completed than the reclaimed crowns when they are sprayed, tumbled or whirled in a lacquer bath. The difficulty, of course, is obtaining a sufficient quantity of salvage for this purpose. However, it should be a good way for the small bottler to help augment his supply. The crown manufacturer prefers this method, because it helps to keep his crown stamping machine busy and also these newly stamped crowns are more efficient when going through the machines for the insertion of the liners. These crowns from salvage metal are more accurately formed. Thus there is less chance for clogging in the hoppers of the cork feeding machines.

Credit: Photos, courtesy of Roxalin Flexible Finishes, Inc., R. E. Greenholtz, The Charles E. Hires Co.



Today many manufacturers forced to turn to paper instead of vital metals are finding Johnson's Waterproofing Waxes just what they need for added carton and package protection.

If you are now packaging in paper...especially if your cartons and packages are going overseas...be sure to get full information on Johnson's Waterproofing Waxes. Fill out and send the memo below. Find out how Johnson's Waterproofing Waxes can give your shipments that "extra" protection they need against moisture.

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Industrial Wax Div., Dept. MP-63,
Racine, Wis.
Send information on Johnson's Waterproofing Waxes to:
Name _____
Address _____

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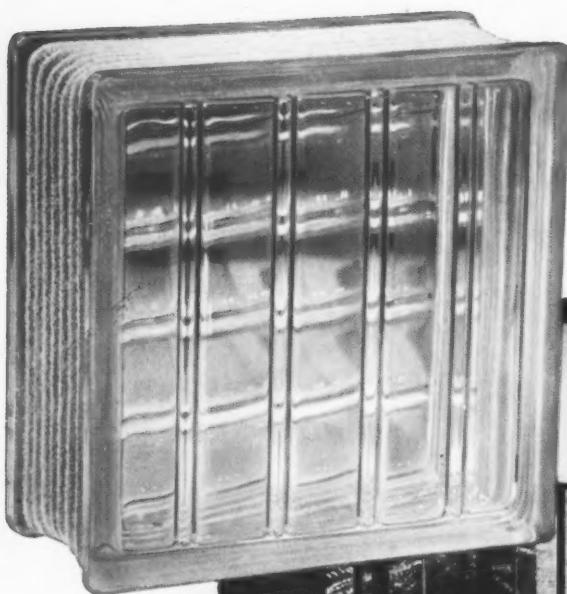
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